ORDER NO. KM40007663C2

Service Manual

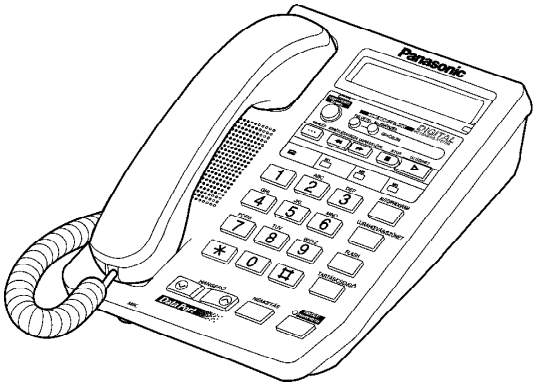
Telephone Equipment

Data Port

KX-TMS32PDW

White Version

(for Poland)



SPECIFICATIONS

SPECIFICATION

Power Source:	AC Adaptor
Memory Capacity:	AC Adaptor KX-A11BS1FL1(AC 230V, 50Hz) informations of 50 different callers.
Greeting Message and Incoming Message:	Full digital recording Total recording time, 15 minutes
Dial Mode:	Tone (DTMF) / Pulse (10 pps)
Redial:	Up to 32 digits
Speed Dialer:	Up to 22 digits
Input Jacks:	$6\ ^{23}/_{32}$" × $3\ ^{1}/_{2}$" × $8^{3}/_{4}$"
Dimensions:	[171 (W) × 89 (H) × 222 (D)mm]
Weight:	1.70 lb. (770g) with handset

Design and specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

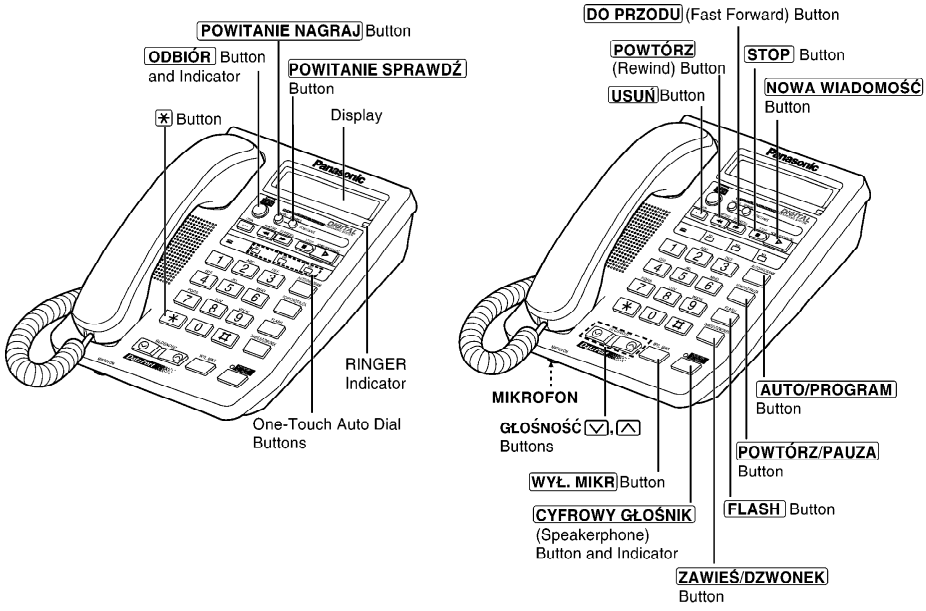
Panasonic

When you mention the serial number, write down all 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

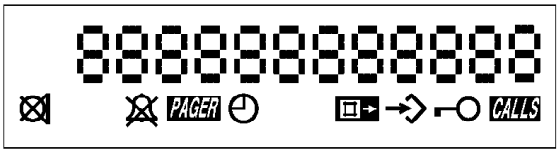
FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.
When replacing, the following precautions will help prevent recurring malfunctions.
1. Cover the plastic parts boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on the workable.
4. Do not grasp IC or LSI pins with bare fingers.

1. LOCATION OF CONTROLS



1.1. Display



(This display shows all of the possible congurations.)

0-15-30

During a conversation, the call duration is displayed.
(Example:
15 minutes, 30 seconds)

0:00AM

The clock needs adjusting.

12
CALLS

12 messages have been recorded.

FULL
CALLS

Message memory is full
(ODBIÓR indicator flashesrapidly).
Erase some or all of the messages.

The WYŁ. MIKR button was pressed during a conversation.

The ringer volume is set to OFF.

PAGER

The pager call mode is set to ON.

The clock needs the day setting.

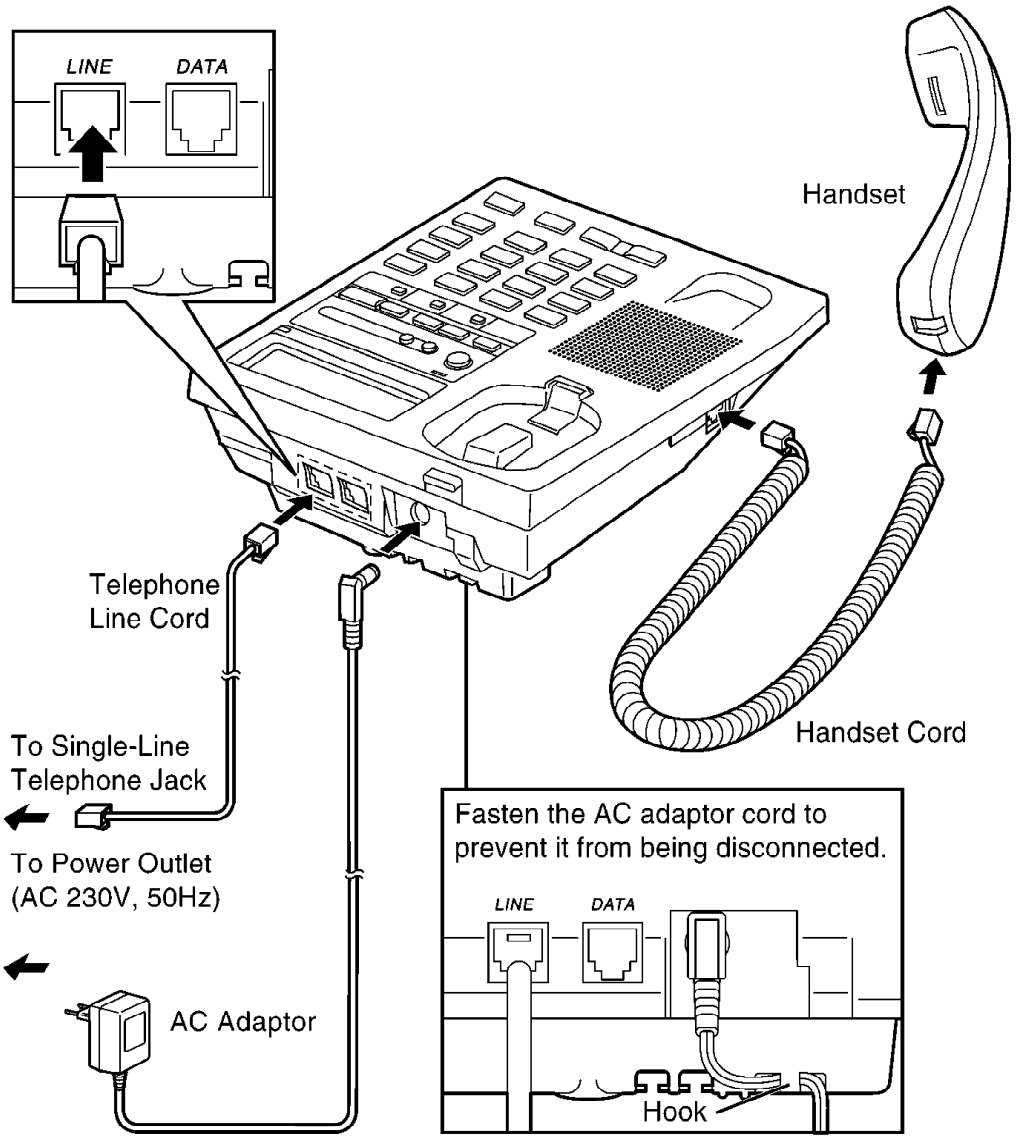
The unit is in the programming mode.

The dial lock mode is set.

2. CONNECTION

2.1. Connecting the Handset /AC Adaptor/Telephone Line Cord

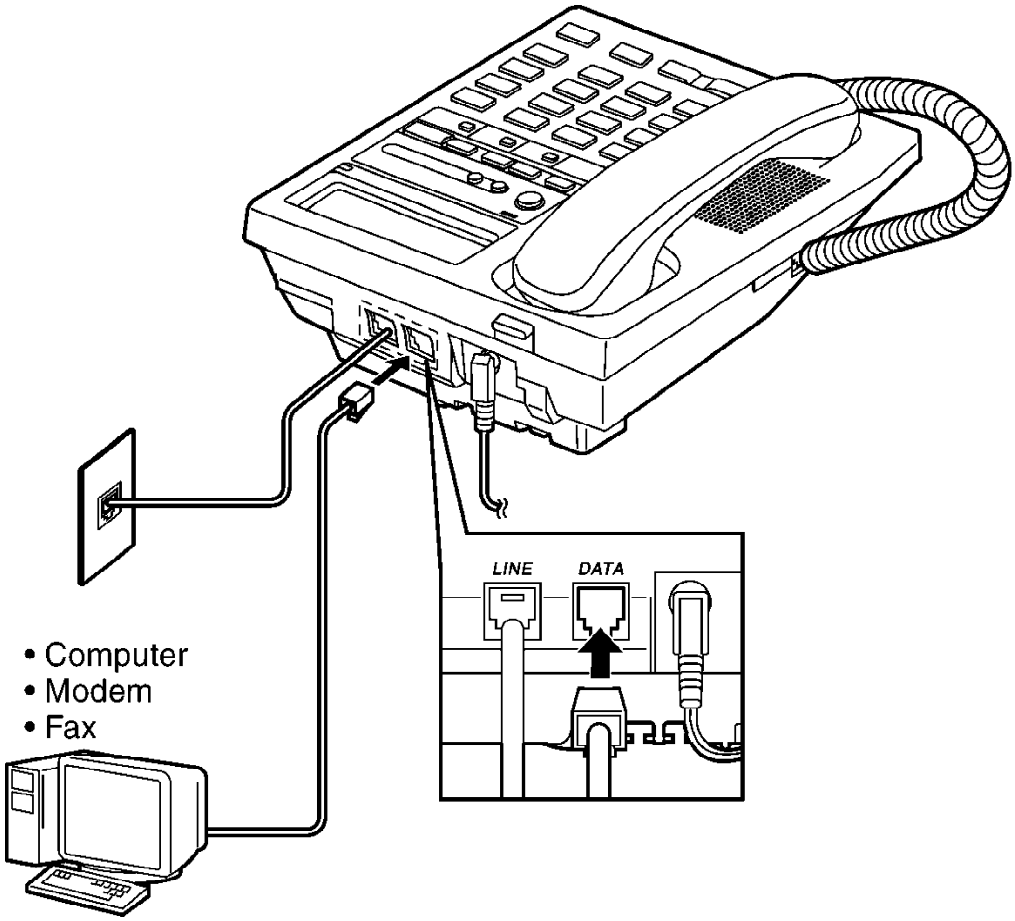
After connection, lift the handset to check for a dial tone.



- In case of power failure, the unit dose not work.
- USE ONLY WITH Panasonic AC ADAPTOR KX-A11BS1FL1.
- Use only a Panasonic Handset for the KX-TMS32PDW.
- The AC adaptor must remain connected at all times. (It is normal for the adaptor to feel warm during use.)
- Telephone line should have additional over voltage and over current protection. Choice of poperly fuse should be done by installator

2.2. Connecting a Communication Device

If you connect a communication device (computer, modem, fax, etc.) to the telephone line, you can connect it through this unit using the DATA jack (-Data Port).
After connecting the handset, AC adaptor and telephone line cord, connect the communication device telephone line cord to the DATA jack.



- **Make sure the communication device is not in use before using this unit (making calls, storing phone numbers in memory etc.) or the communication device may not operate properly.**

3. OPERATIONS

3.1. Making Calls

You can make a call by simply lifting the handset. To hang up, place the handset on the cradle.

Using the speakerphone

(1) Press

CYFROWY GŁOŚNIK

.

-The indicator lights.

(2) Dial a telephone number.

(3) When the other party answers, talk into the MIKROFON. (microphone).

(4) To hang up, press

CYFROWY GŁOŚNIK

.

-The indicator light goes out.

To redial the last number dialed

Lift the handset or press CYFROWY GŁOŚNIK → press POWTÓRZ/PAUZA.

Automatic Redial:

When using the speakerphone, the unit redials the last dialed number up to 15 times within a 10-

period if the line is busy. The CYFROWY GŁOŚNIK is indicator ligh

- To cancel automatic redialing, press FLASH.

To adjust the handset volume (4 levels) or the speaker volume (8 levels) while talking

To increase, press GŁOŚNOŚĆ .

To decrease, press GŁOŚNOŚĆ .

- The display shows the volume level for a few seconds.

Ex. Handset volume level: 2

Ex. Speaker volume level: 3

To put a call on hold

Press ZAWIEŚ/DZWONEK.

- The CYFROWY GŁOŚNIK **indicator light flashes.**

- If using the handset, you can place it on the cradle.

To release the hold

If the handset is on the cradle, lift the handset.

If the handset is off the cradle, press ZAWIEŚ/DZWONEK.

If using the speakerphone, press CYFROWY GŁOŚNIK.

- If another phone is connected on the same line, you can also release the hold by lifting its handset.

During speakerphone operation

For best performance, please note the following:

- Talk alternately with the other party in a quiet room.

- If the other party has difficulty hearing you, press GŁOŚNOŚĆ ^ **to increa speaker volume.**

- If the other party's voice from the speaker cuts in/out during a conversation, press GŁOŚNOŚĆ v **to decrease the speaker volume.**

- You can switch to the handset by lifting it up. To switch back to the speakerphone, press CYFROWY GŁOŚNIK.

3.2. Answering Calls

When a call is received, the unit rings and the RINGER indicator flashes. / You can answer a call

by simply lifting the handset.

Using the speakerphone

(1) Press

CYFROWY GŁOŚNIK

.

-The indicator lights.

(2) Talk into the MIKROFON (microphone).

(3) To hang up, press

CYFROWY GŁOŚNIK

.

-The indicator light goes out.

- When the ringer volume is set to OFF, the unit will not ring.

3.3. Automatic Answering Operation

When the unit answers a call, a greeting message is played and the callers message is recorded.

-The total recording time (including greeting message) is about 15minutes. / If messages are recorded in noisy rooms, the time may be sho up to 3minutes.

-A maximum of 64 messages (including greeting message) can be recorded.

3.3.1. Setting the Unit to Answer Calls

Press **ODBIÓR** **to turn on the answering system.**

-The indicator lights and "Answer set" is heard.

-The unit will announce the remaining recording time if it is less than 5 minutes.

-If you hear "Memory full" the ODBIÓR indicator flashes rapidly and “FULL” is displayed, erase some, or all, of the messages.

- If you do not want the unit to answer calls, press ODBIÓR again to turn off the answering system. The indicator light goes out and "Answer off" is heard.
- You can also turn on the answering system remotely using any other phone.

Monitoring incoming calls

While a call is being recorded, you can monitor it through the speaker. / To answer the call, lift the handset off the unit or press CYFROWY GŁOŚNIK. The unit stops recording.

3.4. Listening to Messages

You can see the total number of recorded messages on the display. If the ODBIÓR indicator flashes, new messages have been recorded.

Listening to only new messages

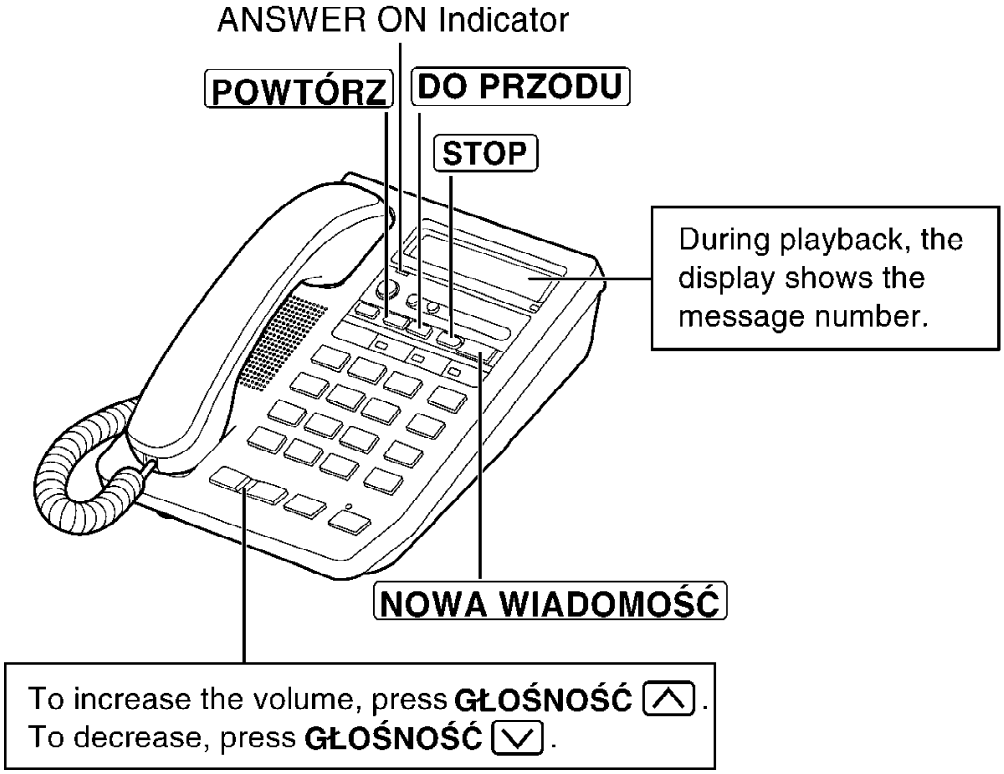
Press NOWA WIADOMOŚĆ **briefly.**

- The unit announces the number of new messages and plays them back.

Listening to all recorded messages

Press and hold NOWA WIADOMOŚĆ **until playback starts.**

- At the end of the last message, 3 beeps sound. / The unit will announce the remaining recording time if it is less than 5 minutes.



During playback

To repeat/rewind message	**To repeat from the beginning of the message** **Press** POWTÓRZ **briefly.** **-If you press within 5 seconds of playback, the previous message will be played.** **To rewind part of the message** **Press and hold** POWTÓRZ **until you reach the desir** **-At the beginning of the message, 3 beeps will sound.**
To skip/cue message	**To skip to the next message** **Press** DO PRZODU **briefly.** **To cue to part of the message** **Press and hold** DO PRZODU **until you reach the place.** **-The message will be heard at twice the normal speed.** **-At the end of the message, 3 beeps will sound.**
To stop operation	**Press** STOP. NOWA WIADOMOŚ **-To resume playback, press** **-If you do not press any button for 60 seconds or if you press** STOP **again, the unit will retu stand-by mode.**

4. DISASSEMBLY INSTRUCTIONS

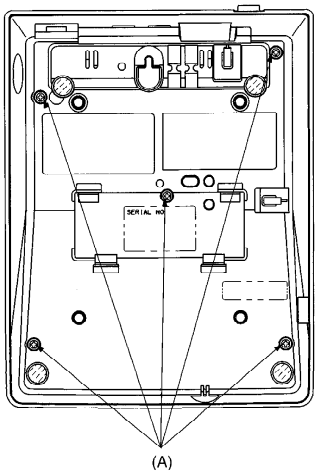


Fig. 1

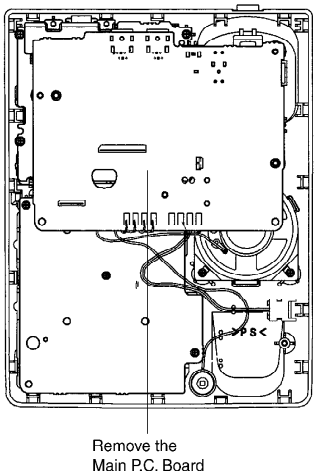


Fig. 2

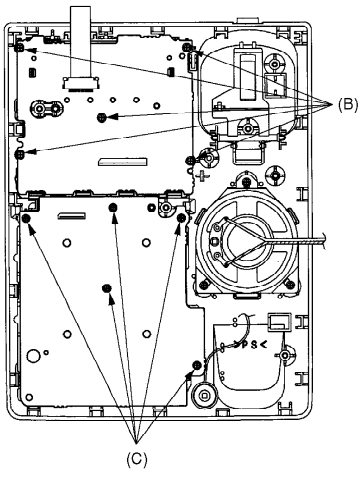


Fig. 3

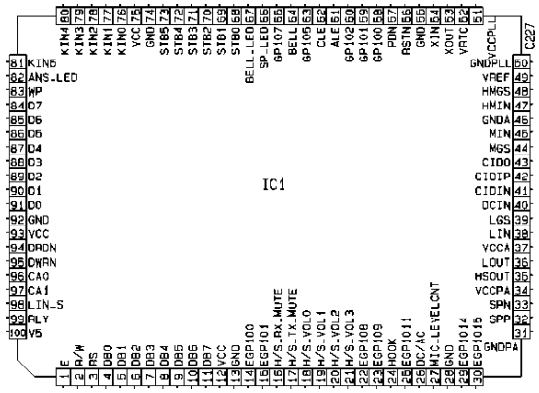
Shown in Fig.-	To remove-.	Remove-.
1	Lower Cabinet	Screws (2.6×14) ..... (A)×5
2	Main Printed Circuit Board	Remove the Main P.C. Board
3	LCD Printed Circuit Board	Screws (2.6×8) ..... (B)×5
3	Operation Printed Circuit Board	Screws (2.6×8) ..... (C)×5

5. ADJUSTMENT

5.1. Reference Drawing

6. CPU DATA

6.1. IC1


IC1
KIN4 KIN3 KIN2 KIN1 KIN0 VCC GND STB5 STB4 STB3 STB2 STB1 STB0 BELL_LED SP_LED GP107 BELL GP105 CLE ALE GP102 GP101 GP100 PDN RSTN GND XIN XOUT VRTC VCCPLL
KIN0 ANS.LED WP D7 D6 D5 D4 D3 D2 D1 D0 GND VCC DRDN DWRN CA0 CA1 LIN_S FLY V5
GNDPLL VREF HMGS HMIN GNDA MIN MGS CIDO CIDIP CIDIN DCIN LGS LIN VCCA LOUT HSOUT VCCPA SPN SPP GNDPA
E R/W RS DB0 DB1 DB2 DB3 DB4 DB5 DB6 DB7 VCC GND EGP100 EGP101 H/S_RX_MUTE H/S_TX_MUTE H/S_VOL0 H/S_VOL1 H/S_VOL2 H/S_VOL3 EGP108 EGP109 HOOK EGP1011 DC/AC MIC-LEVELCNT GND EGP1014 EGP1015

Pin	Description	I/O	High	High-Z	Low
1	E	I	Enable	1/2Vcc	-
2	R/W	I	Read	-	Write
3	RS	I	Data register	-	Instruction register
4	NC	O	-	-	-
5	NC	O	-	-	-
6	NC	O	-	-	-
7	NC	O	-	-	-
8	DB4	I/O	-	-	-
9	DB5	I/O	-	-	-
10	DB6	I/O	-	-	-
11	DB7	I/O	-	-	-
12	VCC	-	-	-	-
13	GND	-	-	-	-
14	LCD RESET	O	-	-	Reset
15	NC	O	-	-	-
16	HS MUTE	O	MUTE	-	Unmute
17	HS MUTE	O	MUTE	-	Unmute
18	HS VOL	O	Volume4: L / Volume3: H	Volume2: L	Volume1: L
19	HS VOL	O	Volume4: L / Volume3: L	Volume2: H	Volume1: L
20	HS VOL	O	Volume4: L / Volume3: L	Volume2: L	Volume1: H
21	NC	O	Latch	-	-
22	NC	O	-	-	-
23	NC	O	-	-	-
24	HOOK	I	ON HOOK	-	-
25	NC	O	-	-	-
26	NC	I	-	-	OFF HOOK
27	LINELEVELCNT	O	-	-	TAM
28	GND	-	-	-	-
29	NC	O	-	-	-
30	NC	O	-	-	-
31	GNDPA	-	-	-	-
32	SPP	-	-	-	-
33	SPN	-	-	-	-
34	VCCPA	-	-	-	-
35	HSOUT	-	-	-	-
36	LOUT	-	-	-	-
37	VCCA	-	-	-	-
38	LIN(from LINE)	-	-	-	-
39	LGS	-	-	-	-
40	DCIN	-	-	-	-

Pin	Description	I/O	High	High-Z	Low
41	CIDIN	-	-	-	-
42	CIDIP	-	-	-	-
43	CIDO	-	-	-	-
44	MGS	-	-	-	-
45	MIN	-	-	-	-
46	GNDA	-	-	-	-
47	HMIN	-	-	-	-
48	HMGS	-	-	-	-
49	VREF	-	-	-	-
50	GNDPLL	-	-	-	-
51	VCCPLL	-	-	-	-
52	VRTC	-	-	-	-
53	XOUT	-	-	-	-
54	XIN	-	-	-	-
55	GND	-	-	-	-
56	RSTN	-	Reset	-	-
57	PDN	-	-	-	Powerdown
58	$\overline{CE}$	-	-	-	-
59	NC	I	Normal	-	Active
60	NC	I	OFF Chg	-	ON Chg
61	ALE	-	-	-	-
62	CLE	-	-	-	-
63	NC	-	-	-	-
64	BELL_DET	I	Bell	-	-
65	NC	O	-	-	-
66	SP_LED	O	OFF	-	ON
67	BELL LED	O	ON	-	OFF
68	STB0	O	Strobe	-	-
69	STB1	O	Strobe	-	-
70	STB2	O	Strobe	-	-
71	STB3	O	Strobe	-	-
72	STB4	O	Strobe	-	-
73	STB5	O	Strobe	-	-
74	GND	-	-	-	-
75	VCC	-	-	-	-
76	KEYIN0	I	Key in	-	-
77	KEYIN1	I	Key in	-	-
78	KEYIN2	I	Key in	-	-
79	KEYIN3	I	Key in	-	-
80	KEYIN4	I	Key in	-	-
81	KEYIN5	I	Key in	-	-
82	ANS_LED	O	ON	-	OFF
83	WP	I/O	Enable	-	-
84	IO7	I/O	-	-	-
85	IO6	I/O	-	-	-
86	IO5	I/O	-	-	-
87	IO4	I/O	-	-	-
88	IO3	I/O	-	-	-
89	IO2	I/O	-	-	-
90	IO1	I/O	-	-	-
91	IO0	I/O	-	-	-
92	GND	-	-	-	-
93	VCC	-	-	-	-
94	DRDN(RE)	-	-	-	-
95	DWRN($\overline{WE}$)	-	-	-	-
96	NC	I	-	-	-
97	NC	O	Active	-	Normal
98	NC	O	-	-	-
99	RLY	O	ON	-	OFF
100	V5	I	-	-	-

7. HOW TO REPLACE FLAT PACKAGE IC

7.1. Preparation

- SOLDER

Sparkle Solder 115A-1, 115B-1 or Almit Solder KR-19, KR-19RMA

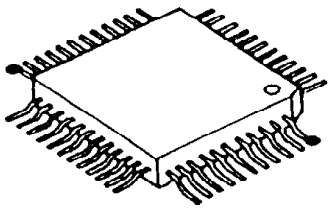
- Soldering iron

Recommended power consumption will be between 30 W to 40 W. / Temperature of Copper Rod 662 ± 50°F (350 ± 10°C) / (An expert may handle between 60 W to 80 W iron, but beginner might damage foil by overheating.)

- Flux / HI115 Specific gravity 0.863 / (Original flux will be replaced daily.)

7.2. Procedure

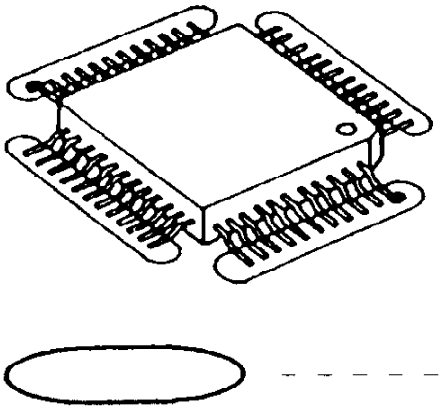
1. Temporary fix FLAT PACKAGE IC by soldering on two marked 2 pins.



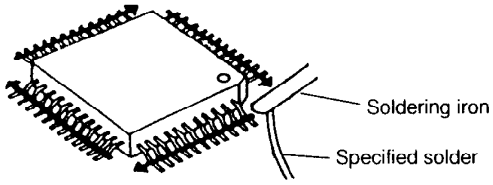
●- - - - - -Temporary soldering point.

***Most important matter is accurate setting of IC to the corresponding soldering foil.**

2. Apply flux for all pins of FLAT PACKAGE IC.



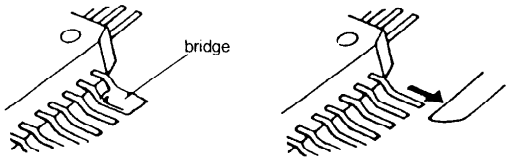
3. Solder employing specified solder to direction of arrow, as sliding the soldering iron.



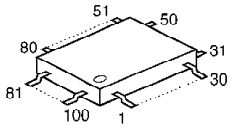
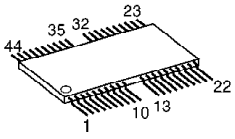
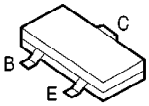
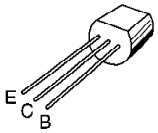
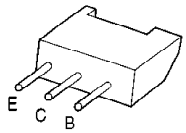
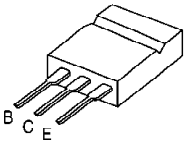
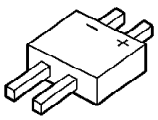
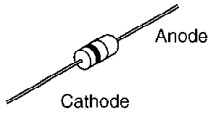
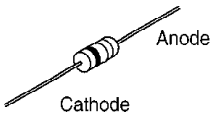
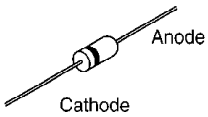
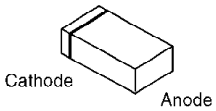
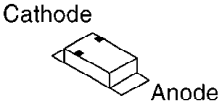
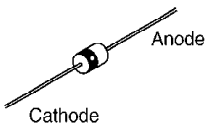
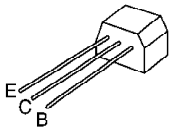
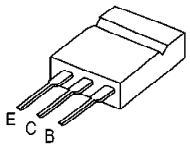
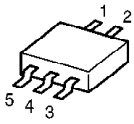
7.3. Modification Procedure of Bridge

1. Re-solder slightly on bridged portion.

2. Remove remained solder along pins employing soldering iron as shown in below figure.



8. TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 PQVI16559AHB	 PQWITMS32PDW	 2SD1819A,UN5213 2SD601R PQVTDTA114EU PQVTFB1J3P	 2SA1625, PQVT2N6517CA PQVTKSD261CY
 2SD1994A	 2SD2137	 PQVDS1YB60F1	 MA4180 MA4056
 MA4091 MA4020 MA4062	 1SS119	 MA111 MA8039	 PQVDSML210LT
 PQVDS5688G	 2SC1740S	 2SD2136	 AN6123MS

9. FOR SCHEMATIC DIAGRAM (17 SCHEMATIC DIAGRAM)

Notes:

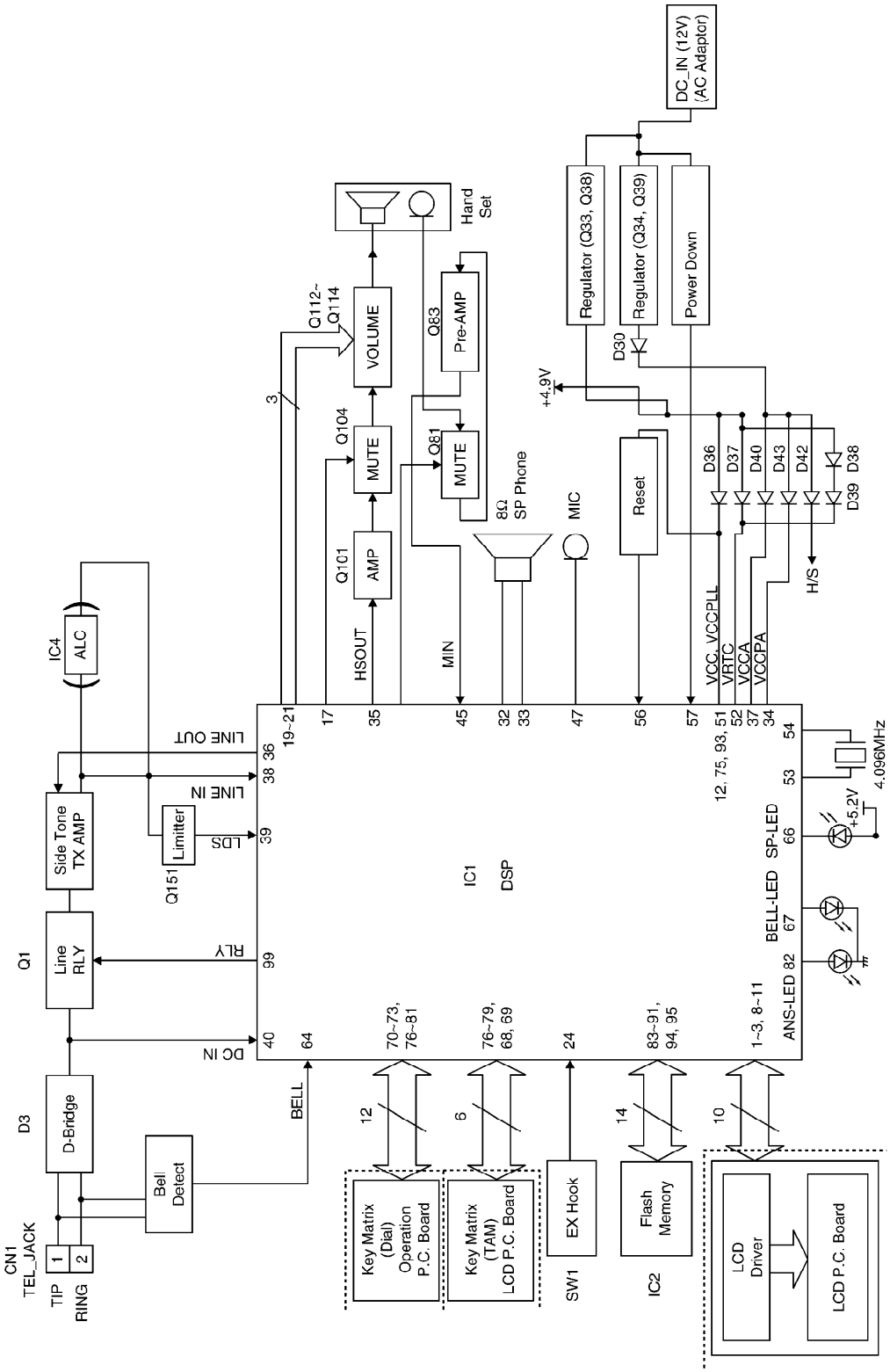
1. DC voltage measurements are taken with voltmeter from the

negative voltage line.

This schematic diagram may be modified at any time with the development of new technology.

10. BLOCK DIAGRAM

10.1. P.C. Board



11. CIRCUIT OPERATION

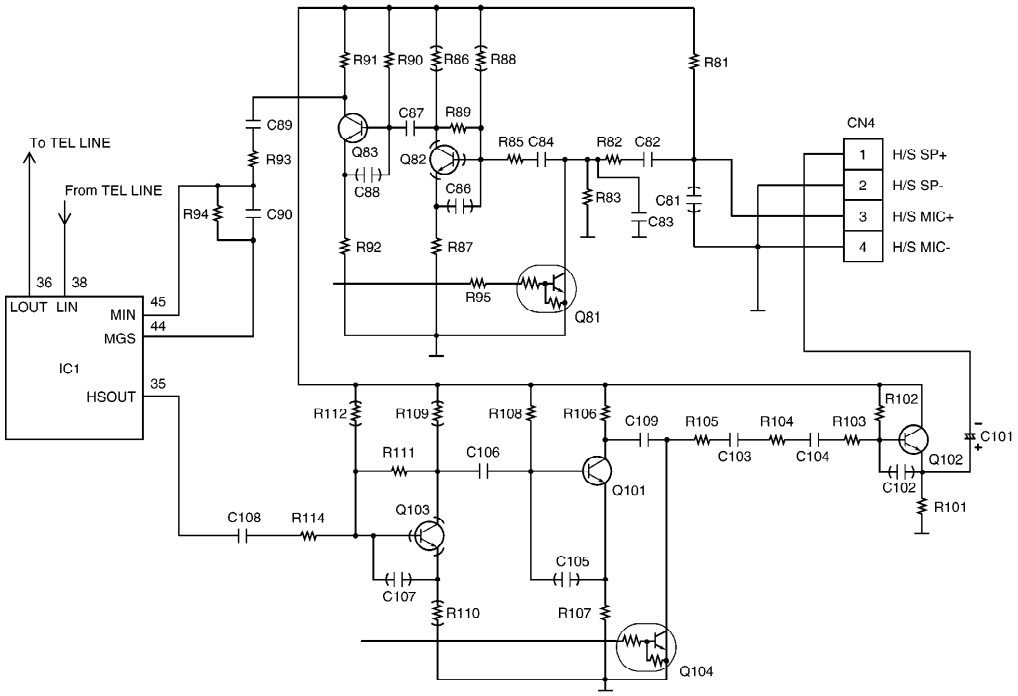
11.1. HANDSET CIRCUIT

1) Transmission Signal Path / The input signal from the microphone passes through:

MIC → CN4 pin 3 and 4 → C82 → R82 → C84 → R85 → R89 → C87 → Q83 → C89 → R93 →

pin 44 and 45 of IC1 → pin 360 of IC1 → Telephone Line /
2) Reception Signal Path / Signals received from the telephone line passed through:
pin 38 of IC1 → Pin35 of IC1 → C108 → R114 → R111 → C106 → Q101 → C109 → R105 → C103 → R104 → R103 → Q102 → C101 → CN 4 pin 1and 2 → Speaker

Circuit Diagram

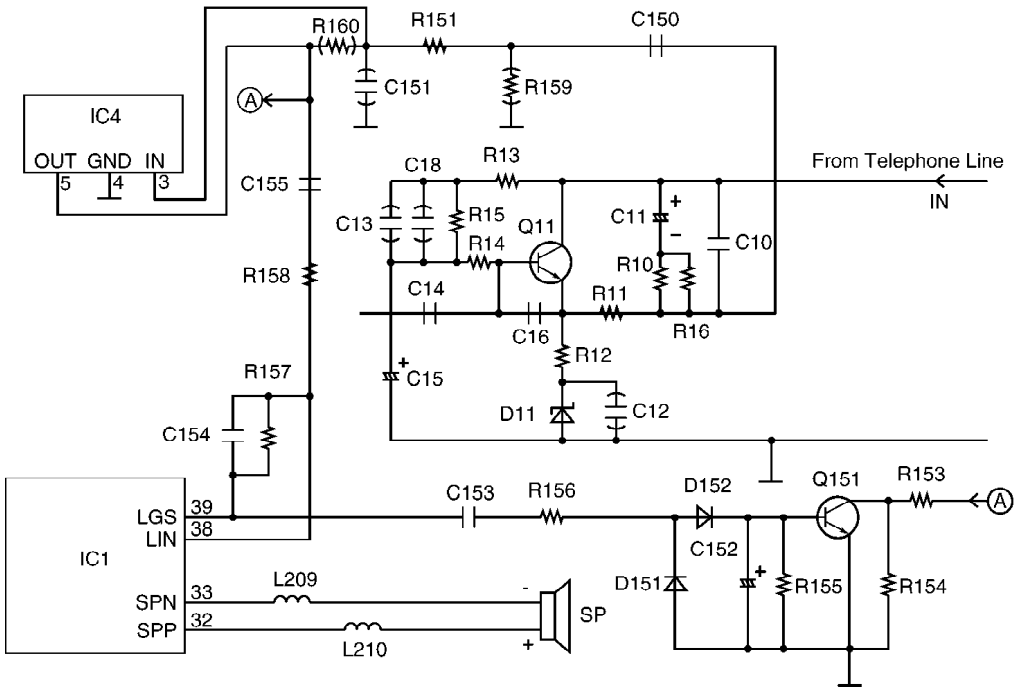


11.2. SP-PHONE RX Circuit

Circuit Operation: / Telephone Line → C150 → R151 → C155 → R158 → pin 38 of IC1 → pins 32 and 33 of IC1 → L209 and L210 → Speaker

(Limitter Circuit)

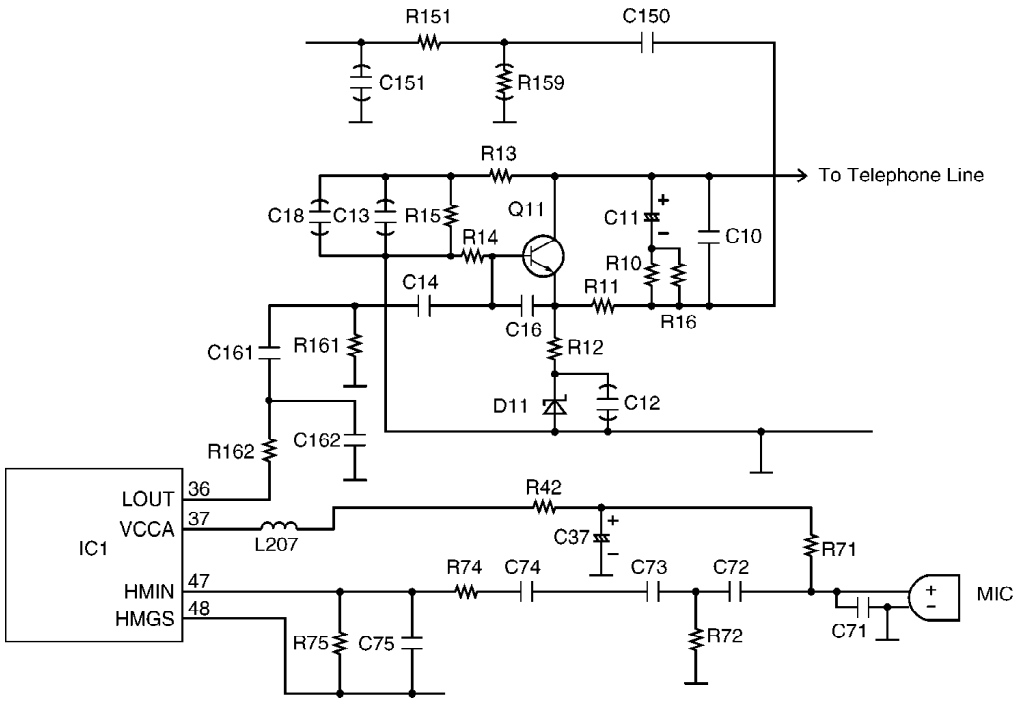
Circuit Diagram



11.3. SP-PHONE TX Circuit

Circuit Operation: / MIC → C72 → C73 → C74 → R74 → pin 47 of IC1 → pin 36 of IC1 → R162 → C161 → C14 → Telephone Line

Circuit Diagram

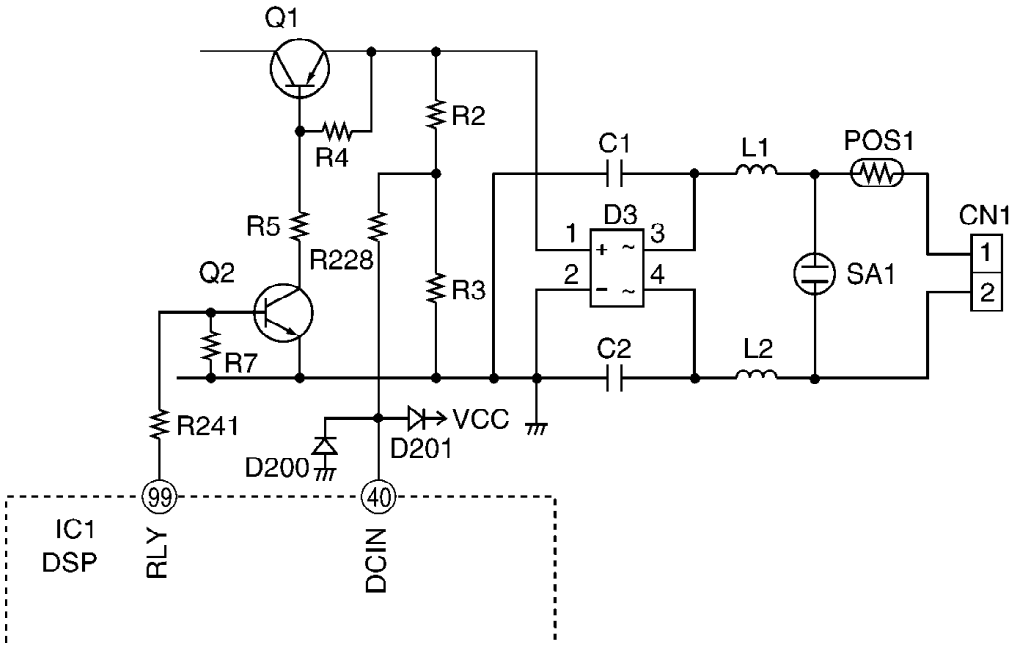


11.4. Auto Disconnect Circuit

Function: / This circuit is used to detect the fact that another telephone connected to the same

line is OFF-HOOK while the unit is in a receiving status or OGM transmitting status.
Circuit Operation: / The voltage pin 40 of IC1 is monitored. If a parallel-connected telephone is put into an OFF HOOK status, the presence/absence of a parallel connection is determined when the voltage changes by 0.2V or more. / When the set detects tha parallel-connected telephone is OFF HOOK status, the line is disconnected.

Circuit Diagram

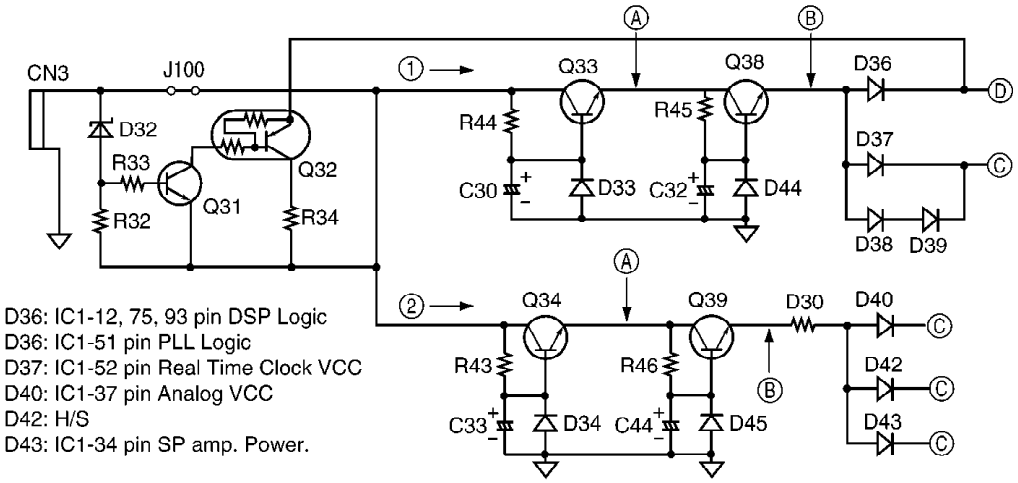


11.5. Power Supply Circuit

Function: / Power from the AC adaptor passes through a regulating block consisting of / ① Q33, D33, R44 and C30, Q38, D44, R45 and C32 / ② Q34, D34, R43, and C33, Q39, D45, R46 and C44

Circuit Operation: / Q33, Q34, Q38, Q39 is a regulated power supply. The voltage at point Ⓐ is regulated to 8.6 V. / The voltage at point Ⓑ is regulated to 4.9V / The voltage at point Ⓒ is dropped by D37, D40, D43 to 4.5 V. / The voltage at point Ⓓ is dropped by D36, D60 to 4.2 V.

Circuit Diagram



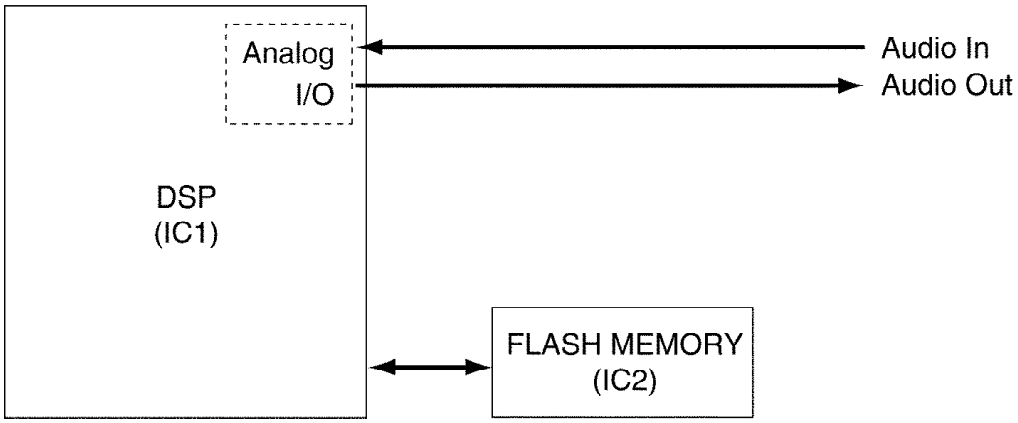
11.6. DTMF Signal

When the DTMF data from the Handset is received, the DTMF signal is output from pin 36 of the DSP and sent to the line through Q11.

11.7. DSP (Digital Speech/Signal Processing) Circuit

General Description: / (IC1~ IC2) is a digital speakerphone/speech/signal processing system that implements all the functions of speech compression, record and playback, and memory management required in a digital telephone answering machine. /
The DSP system comprises of following. / — a Host Processor.
— a Digital Signal Processor which includes the firmware implemented functions.
— a FLASH MEMORY (IC2), which is used for stored voice messages and synthesized voice.

Circuit Diagram



- Voice Message Recording / The DSP system use a proprietary speech compression technique to record and store voice message in FLASH MEMORY (IC2). / An error correction algorithm is used to enable playback of these messages from the FLASH MEMORY (IC2).

- DTMF Detection / The DTMF detection is implemented by the DSP

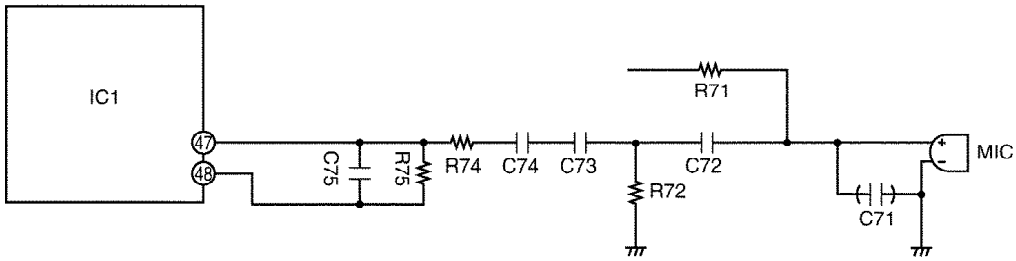
system in software. The DTMF detection is performed during Record, Playback, and Line Monitoring modes of operation.

- Synthesized Voice / The DSP implements synthesized Voice, utilizing the built in speech detector and an FLASH MEMORY (IC2), which stored the vocabulary.

11.8. Greeting Recording Circuit

Circuit Operation: / MIC → C72 → C73 → C74 → R74 → pin 47 of IC1.

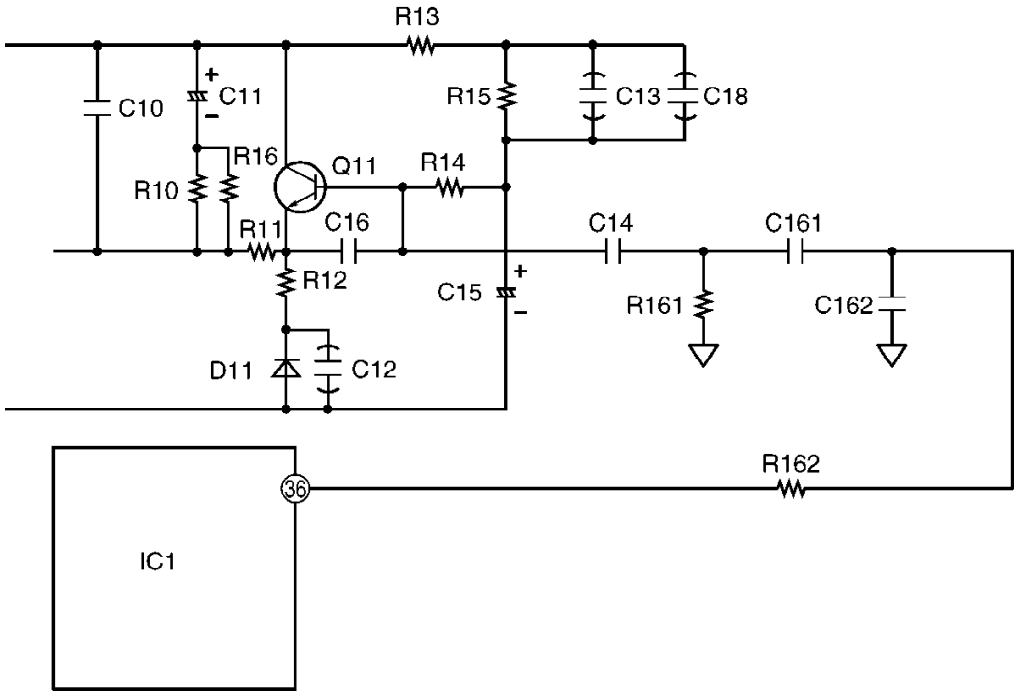
Circuit Diagram



11.9. Greeting Play Back Circuit

Circuit Operation: / IC1 → R162 → C161 → C14 → Telephone Line.

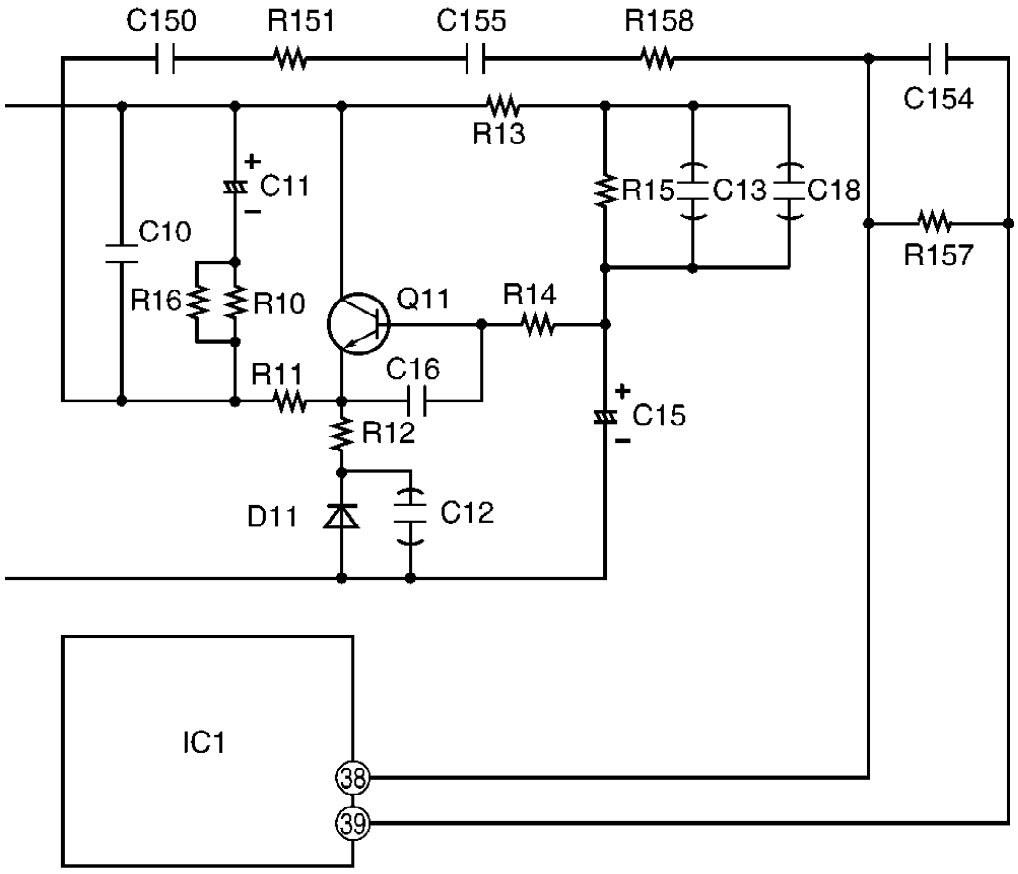
Circuit Diagram



11.10. ICM Recording Circuit

Circuit Operation: / Telephone Line → C150 → R151 → C155 → R158 → pin 38 of IC1.

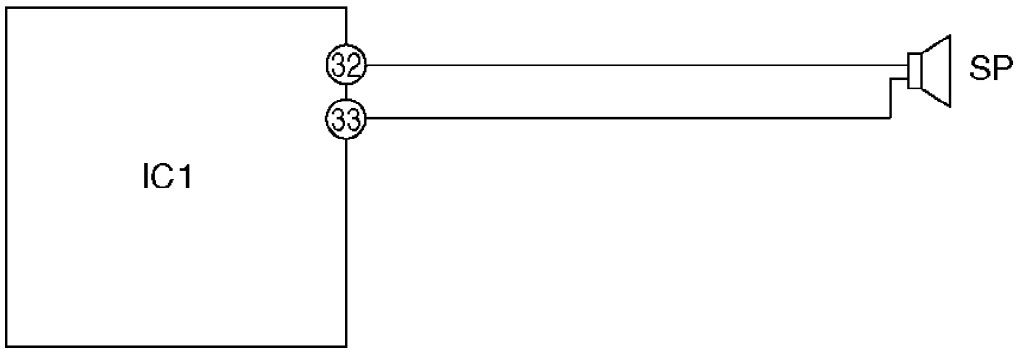
Circuit Diagram



11.11. ICM Play Circuit

Circuit Operation: / pins 32 and 33 of IC1 → Speaker.

Circuit Diagram

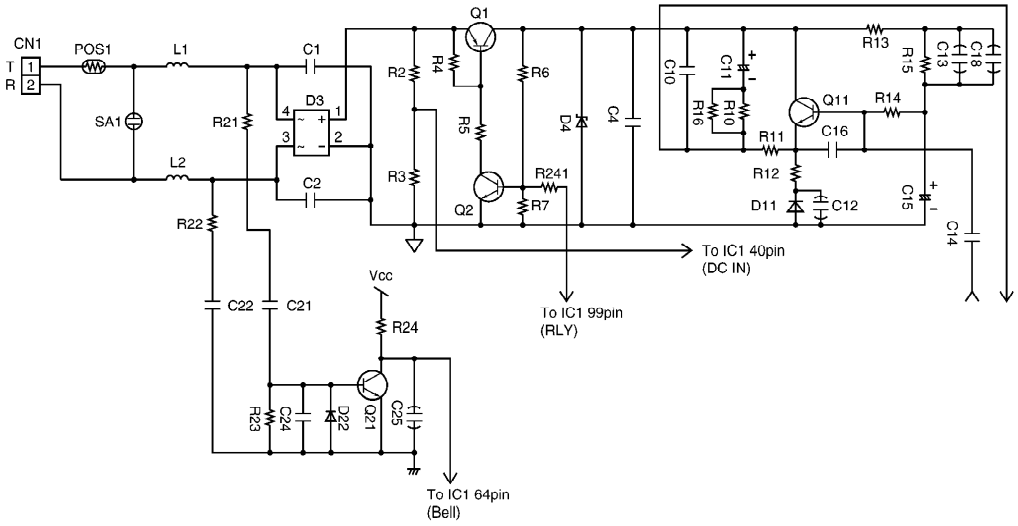


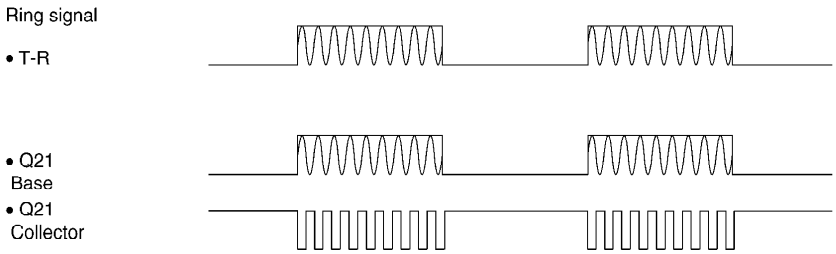
11.12. Telephone Line Interface

Circuit Operation: / ANSWER / In the idle mode, Q1 is open to cut the DC loop current and decrease the ring load. When ring voltage appears at the Tip (T) and Ring (R) leads (When the telephone rings), the AC ring voltage is transferred as follows: / T → POS1 → L1 → R21 → C21 → Q21 → IC1 pin 64. / When the CPU (DSP) detects a ring signal, Q21 turns on, thus providing

an off-hook condition (active DC current flow through the circuit) and the following signal flow is for the voice signal. / T → POS1 → D3 → Q1 → Q11 → R12 → D11 → D3 → R
ON HOOK / Q1 is open, Q1 is connected as to cut the DC loop current and to cut the voice signal. The unit is consequently in an on-hook condition.
SPECIFICATIONS / In the on-hook state (idle), the AC current flows between the telephone line and the unit is as follows: / T → POS1 → L1 → R21 → C21 → R23 → C22 → R22 → L2 → R. / The DC component is blocked by C21, C22: thereby providing an on-hook condition. / The AC interface impedance is over 47 kΩ ; thus, satisfying the telephone company requirements.

Circuit Diagram



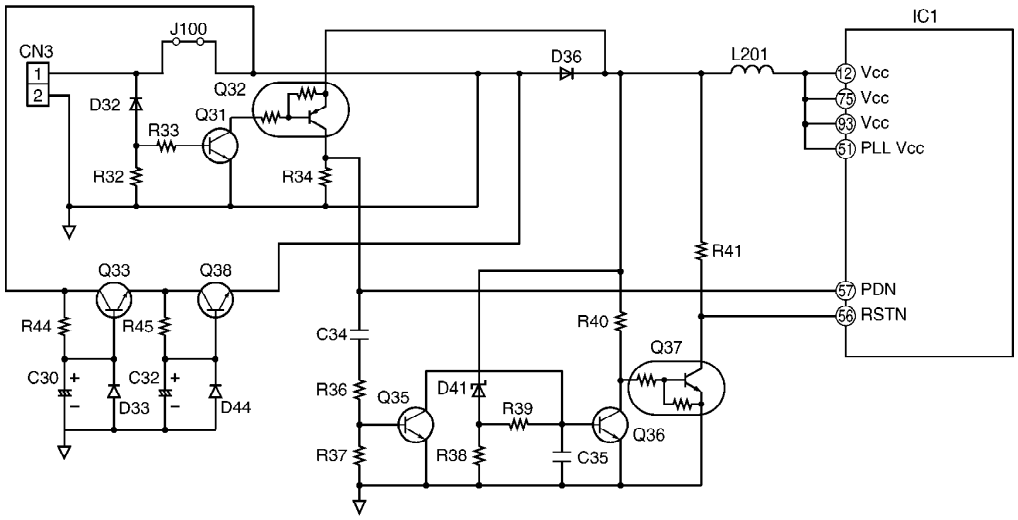


Ring signal frequency: 16 ~ 60 Hz.
The Ring signal frequency is between 16 to 60 Hz at IC1 64 pin (DSP), it is judged as a Ring signal.

11.13. Initializing Circuit

Function: / This circuit is used for to initialize the microcomputer when it incorporates an AC adaptor.
Circuit Operation: / When the AC Adaptor is inserted into the unit, then the voltage is shifted by D36 and power is supplied to the CPU. /

Circuit Diagram

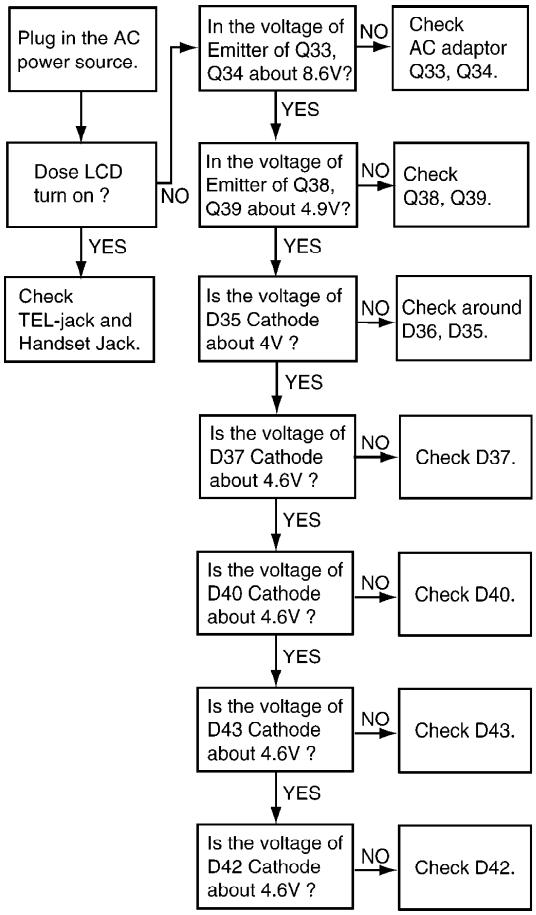


12. TROUBLESHOOTING GUIDE

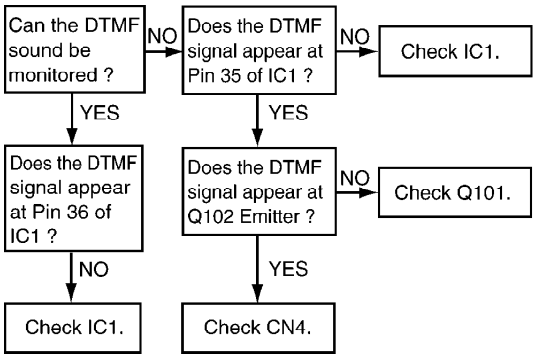
12.1. Service Hints

SYMPTOM	CURE
Can't hear the voice from handset.	Check IC1, Q101, Q102, CN4, IC4.
No voice transmit.	Check IC1, Q11.
Can't tone dial.	Check IC1.
Can't pulse dial.	Check IC1, R241, R7, Q2, R5, R4, Q1.
Can't auto dial.	Check IC1.
No rings.	Check R21, R22, C21, C22, C27, R23, C24, D22, Q21, R24, IC1.
Can't speak with the speakerphone.	Check MIC, Speaker, IC1.
Can't hold.	Check IC1, CN10, CN101.
Can't speak with the handset.	Check Handset jack.
Can't change the volume speakerphone.	Check IC1, CN10, CN101.
Can't change the volume for Handset.	Check IC1, Q112, Q113, Q114, R118, R119, R120, R126, R130, R134.
No volume handset or speakerphone.	Check IC1.

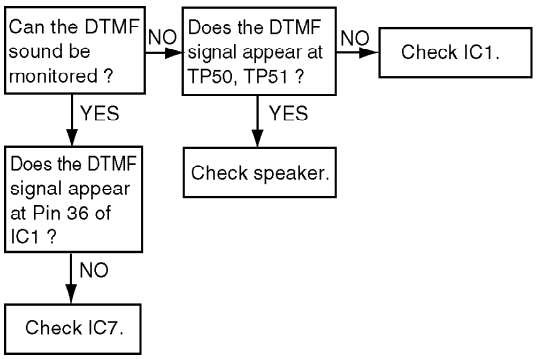
12.2. Functions do not Work



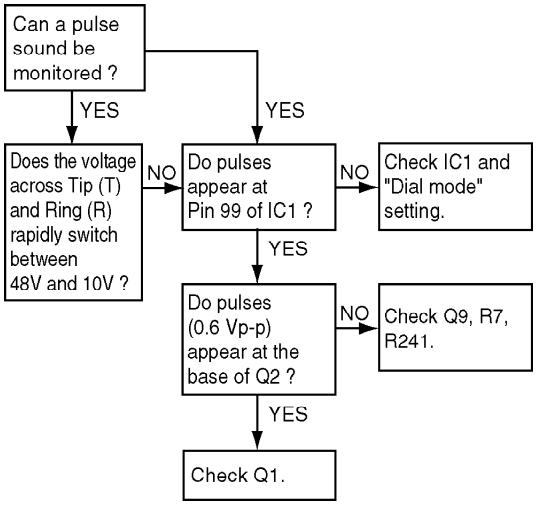
12.3. Tone Dialing Problems (Handset)



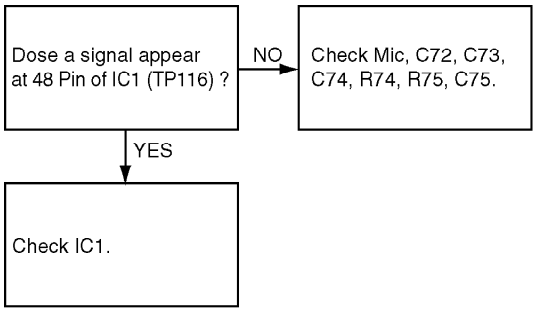
12.4. Tone Dial Problems (SP-PHONE)



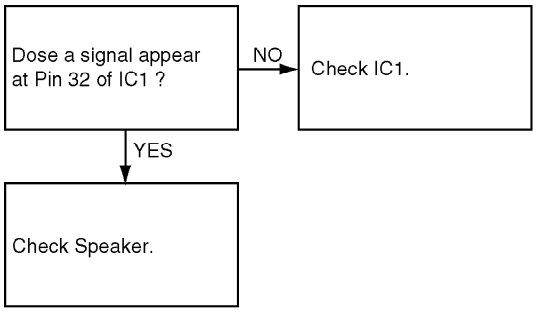
12.5. Pulse Dialing Problems


Can a pulse sound be monitored ?
YES
YES
Does the voltage across Tip (T) and Ring (R) rapidly switch between 48V and 10V ?
NO
Do pulses appear at Pin 99 of IC1 ?
NO
Check IC1 and "Dial mode" setting.
YES
Do pulses (0.6 Vp-p) appear at the base of Q2 ?
NO
Check Q9, R7, R241.
YES
Check Q1.

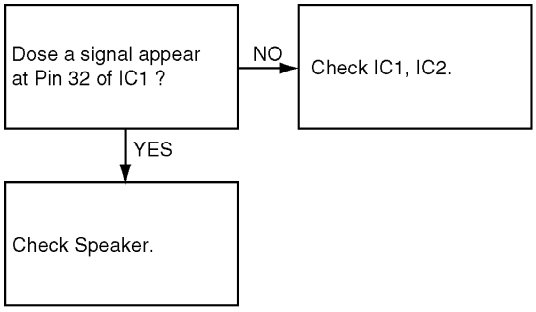
12.6. Does not RECORD



12.7. Does not Playback



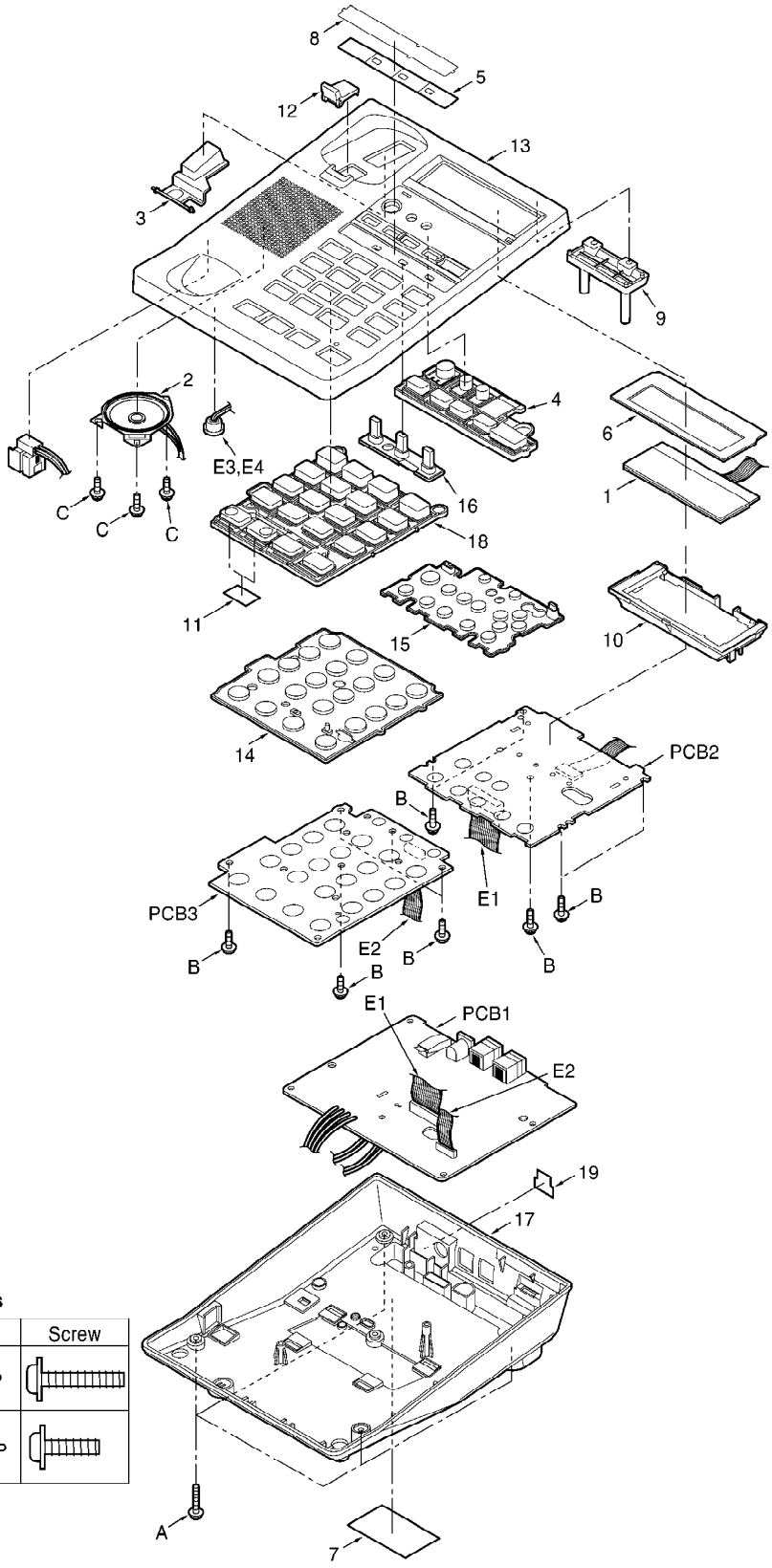
12.8. Cannot Find The Synthesized Voice



Initialize Memory (ICM, Greeting, C-ID, Telephone book etc.)

1. **At the condition of ON-HOOK, pressing 1, 9 and * keys turn the power on (ANSWER LED, BELL LED, SP LED lights).**
2. **Release 1, 9 and * keys. ANSWER LED turns on and off, and beep sounds.**
3. **Input the DTMF signal [0] from line. Beep sounds, starts to initialize.**
4. **After 1 second, back to actual mode, finishes to initialize.**

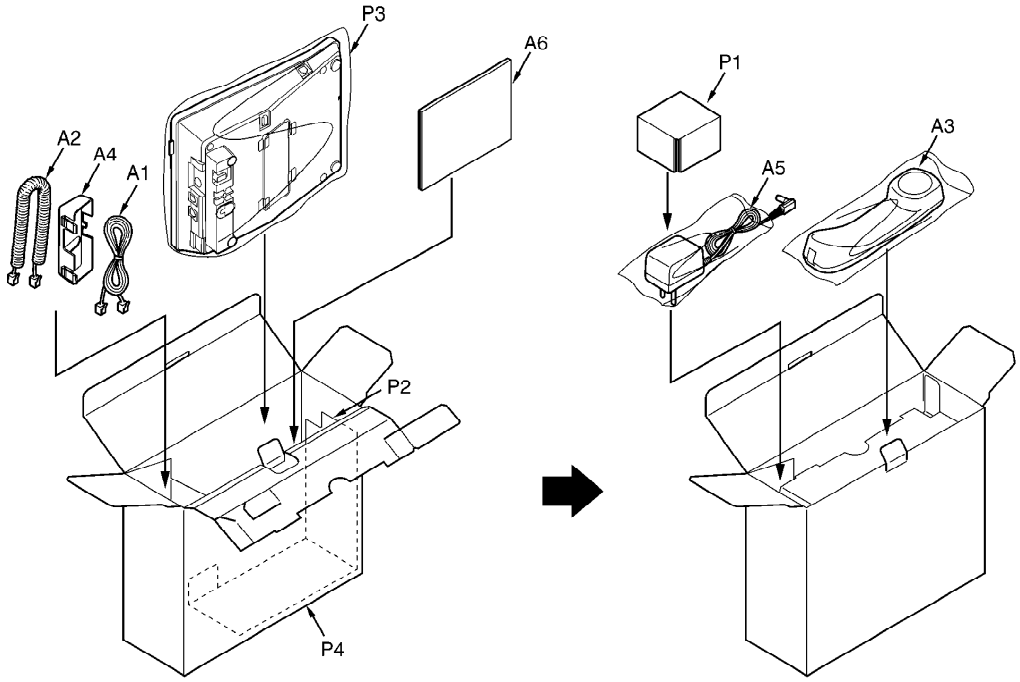
13. CABINET AND ELECTRICAL PARTS



Actual Size of Screws

Ref. No.	Part No.	Screw
A	XTW26+14P	
B	XTW26+S8P	

14. ACCESSORIES AND PACKING MATERIALS



15. REPLACEMENT PARTS LIST

This replacement parts list are KX-TMS32PDW only.
Note:

1. RTL (Retention Time Limited)
The marking (RTL) indicates that the Retention Time is limited for this item.
After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.
After the end of this period, the assembly will no longer be available.

2. Important safety notice
Components identified by a ⚠ mark special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.

3. The S mark indicates service standard parts and may differ from production parts.

4. RESISTORS & CAPACITORS
Unless otherwise specified;

All resistors are in ohms (Ω) K=1000 Ω , M=1000k Ω
All capacitors are in MICRO FARADS (μ F) P= μ μ F
***Type & Wattage of Resistor**

Type

ERC:Solid ERD:Carbon PQRD:Carbon	ERX:Metal Film ERG:Metal Oxide ER0:Metal Film	PQ4R:Carbon ERS:Fusible Resistor ERF:Cement Resistor

Wattege

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor ECQS:Styrol PQCUV:Chip ECQMS:Mica	ECCD,ECKD,ECBT,PQCBC:Ceramic ECQE,ECQV,ECQG:Polyester ECEA,ECSZ:Electlytic ECQP:Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H:50V 2A:100V 2E:250V 2H:500V	05:50V 1:100V 2:200V	0F:3.15V 1A:10V 1V:35V 0J:6.3V	0J :6.3V 1A :10V 1C :16V 1E,25:25V	1V :35V 50,1H:50V 1J :63V 2A :100V

15.1. KX-TMS32PDW

15.1.1. CABINET AND ELECTRICAL PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	PQADGP0781GN	LIQUID CRYSTAL DISPLAY	
2	PQAS57P03Y	SPEAKER	
3	PQBH10027Z1	BUTTON, HOOK	S
4	PQBX10335Z1	BUTTON, FUNCTION etc...	S
5	PQGD10159Z	TEL CARD	
6	PQGP10161X1	LCD PANEL	S
7	PQGT14062Z	NAME PLATE	
8	PQGV10036Z	TEL CARD COVER	
9	PQHR10725Z	PCB SPACER	
10	PQHR10735Z	LCD HOLDER	
11	PQHX10312Z	PVC SHEET	
12	PQKE10070Z3	HANGER	S
13	PQKM10418V1	UPPER CABINET	S
14	PQSX10088Y	RUBBER SWITCH, 20KEY	
15	PQSX10122Y	RUBBER SWITCH, 15KEY	
16	PQSX10123Z	RUBBER SWITCH, 3KEY	
17	PQYF10164Y1	LOWER CABINET	S
18	PQYT10012Y1	BUTTON, 20KEY	S
19	PQQT22146Z	ADAPTOR LABEL	

15.1.2. ACCESSORIES

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQJA10075Z	TEL CORD	
A2	PQJA212M	CURL CORD	
A3	PQJXF0202Z	HANDSET	
A4	PQKL24Y81	STAND	S
A5	KX-A11BS1FL1	AC ADAPTOR	S ⚠
A6	PQQX12673Z	INSTRUCTION BOOK	

15.1.3. PACKING MATERIALS

Ref. No.	Part No.	Part Name & Description	Remarks
P1	PQPD10440Y	PAD	
P2	PQPD10465Z	PAD	
P3	PQPH89Y	PROTECTION COVER (FOR UNIT)	
P4	PQPK13062Z	GIFT BOX	

15.1.4. MAIN P.C.BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PQWP1MS32PDH	MAIN P.C.BOARD ASS'Y (RTL)	
		(ICS)	
IC1	PQVI16559AHB	IC	
IC2	PQWITMS32PDH	IC	
		(TRANSISITORS)	
Q1	2SA1625	TRANSISTOR(SI)	
Q2	PQVT2N6517CA	TRANSISTOR(SI)	
Q3	2SC2120	TRANSISTOR(SI)	
Q11	PQVTKSD261CY	TRANSISTOR(SI)	S
Q21	2SC1740S	TRANSISTOR(SI)	
Q31	2SD1819A	TRANSISTOR(SI)	
Q32	PQVTDTA114EU	TRANSISTOR(SI)	
Q33	2SD2136	TRANSISTOR(SI)	
Q34	2SD2137	TRANSISTOR(SI)	
Q35	2SD1819A	TRANSISTOR(SI)	
Q36	2SD1819A	TRANSISTOR(SI)	
Q37	UN5213	TRANSISTOR(SI)	S
Q38	2SD1994A	TRANSISTOR(SI)	
Q39	2SD1994A	TRANSISTOR(SI)	
Q71	2SD601A	TRANSISTOR(SI)	S
Q81	PQVTFB1J3P	TRANSISTOR(SI)	
Q83	2SD1819A	TRANSISTOR(SI)	
Q101	2SD1819A	TRANSISTOR(SI)	
Q102	2SD1819A	TRANSISTOR(SI)	
Q104	PQVTFB1J3P	TRANSISTOR(SI)	
Q112	2SD1994A	TRANSISTOR(SI)	
Q113	2SD1994A	TRANSISTOR(SI)	
Q114	2SD1994A	TRANSISTOR(SI)	
Q151	2SD1819A	TRANSISTOR(SI)	

Ref. No.	Part No.	Part Name & Description	Remarks
Q280	UN5113	TRANSISTOR(SI)	S
Q281	UN5213	TRANSISTOR(SI)	S
		(DIODES)	
D1	MA4033	DIODE(SI)	
D2	MA4033	DIODE(SI)	
D3	PQVDS1YB60F1	DIODE(SI)	
D4	MA4180	DIODE(SI)	
D11	MA4020	DIODE(SI)	
D22	1SS119	DIODE(SI)	
D32	MA4062	DIODE(SI)	
D33	MA4091	DIODE(SI)	
D34	MA4091	DIODE(SI)	
D36	PQVDS5688G	DIODE(SI)	
D37	1SS119	DIODE(SI)	
D38	1SS119	DIODE(SI)	
D39	1SS119	DIODE(SI)	
D40	1SS119	DIODE(SI)	
D41	MA8039	DIODE(SI)	
D42	1SS119	DIODE(SI)	
D43	PQVDS5688G	DIODE(SI)	
D44	MA4056	DIODE(SI)	
D45	MA4056	DIODE(SI)	
D151	1SS119	DIODE(SI)	
D152	MA111	DIODE(SI)	
D200	1SS119	DIODE(SI)	
D201	MA111	DIODE(SI)	
		(COILS)	
L1	PQLQXF330K	COIL	
L2	PQLQXF330K	COIL	
L201	PQLQR2KA213	COIL	
L231	PQLQR2KA213	COIL	
R218	PQLQR2KA213	COIL	
R219	PQLQR2KA213	COIL	
R220	PQLQR2KA213	COIL	
R221	PQLQR2KA213	COIL	
		(CONNECTORS)	
CN10	PQJS12B33Z	CONNECTOR	
CN11	PQJS18X54Z	CONNECTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
		(JACKS)	
CN1	PQJJ1T008X	JACK	
CN2	PQJJ1T008X	JACK	
CN3	PQJJ1B4Y	JACK	
CN4	PQJJ1TB2S	JACK	
		(VARISTORS)	
SA1	PQVDDSS301L	VARISTOR	
SA2	PQVDDSS301L	VARISTOR	
		(VARIABLE RESISTORS)	
VR1	EVNDXAA03B35	VARIABLE RESISTOR	
VR2	EVNDXAA03B16	VARIABLE RESISTOR	
		(OTHERS)	
E1	PQJE10090Z	FLEXIBLE FLAT CABLE	
E2	PQJE10098Z	FLEXIBLE FLAT CABLE	
E3	PQJM122Z	MICROPHONE	
E4	PQMG10022Z	MIC RUBBER	
SW1	ESE14A211	PUSH SWITCH	
X1	PQVCK4096K8Z	CRYSTAL OSCILLATOR	
		(RESISITORS)	
R1	ERDS2TJ473	47k	
R2	ERDS1TJ825	8.2M	S
R3	ERJ3GEYJ335	3.3M	
R4	ERJ3GEYJ104	100k	
R5	ERJ3GEYJ472	4.7k	
R7	ERJ3GEYJ153	15k	
R8	ERDS1TJ680	68	S
R9	ERJ3GEYJ103	10k	
R10	ERJ3GEYJ103	10k	
R11	ERJ3GEYJ181	180	
R12	ERDS1TJ680	68	S
R13	ERJ3GEY0R00	0	
R14	ERJ3GEYJ153	15k	
R15	ERJ3GEYJ122	1.2k	
R16	ERJ3GEYJ102	1k	
R21	PQ4R10XJ104	100k	
R22	PQ4R10XJ104	100k	
R23	ERJ3GEYJ472	4.7k	
R24	ERJ3GEYJ473	47k	
R32	ERJ3GEYJ561	560	

Ref. No.	Part No.	Part Name & Description	Remarks
R33	ERJ3GEYJ563	56k	
R34	ERJ3GEYJ104	100k	
R36	ERJ3GEYJ474	470k	
R37	ERJ3GEYJ474	470k	
R38	ERJ3GEYJ102	1k	
R39	ERJ3GEYJ474	470k	
R40	ERJ3GEYJ563	56k	
R41	ERJ3GEYJ563	56k	
R42	ERJ3GEYJ102	1k	
R43	PQ4R10XJ681	680	
R44	PQ4R10XJ681	680	
R45	PQ4R10XJ681	680	
R46	PQ4R10XJ681	680	
R52	ERJ3GEY0R00	0	
R71	ERJ3GEYJ392	3.9k	
R72	ERJ3GEYJ562	5.6k	
R73	ERJ3GEYJ391	390	
R74	ERJ3GEYJ392	3.9k	
R75	ERJ3GEYJ474	470k	
R81	ERJ3GEYJ222	2.2k	
R82	ERJ3GEYJ103	10k	
R89	ERJ3GEY0R00	0	
R90	ERJ3GEYJ335	3.3M	
R91	ERJ3GEYJ392	3.9k	
R92	ERJ3GEYJ681	680	
R93	ERJ3GEYJ223	22k	
R94	ERJ3GEYJ274	270k	
R95	ERJ3GEY0R00	0	
R101	ERJ3GEYJ102	1k	
R102	ERJ3GEYJ563	56k	
R103	ERJ3GEYJ103	10k	
R104	ERJ3GEY0R00	0	
R106	ERJ3GEYJ152	1.5k	
R107	ERJ3GEYJ681	680	
R108	ERJ3GEYJ335	3.3M	
R111	ERJ3GEYJ154	150k	
R113	ERJ3GEYJ394	390k	
R116	ERJ3GEY0R00	0	
R118	ERJ3GEYJ392	3.9k	
R119	ERJ3GEYJ822	8.2k	
R120	ERJ3GEYJ223	22k	
R126	ERJ3GEYJ473	47k	
R130	ERJ3GEYJ473	47k	
R134	ERJ3GEYJ473	47k	

Ref. No.	Part No.	Part Name & Description	Remarks
R151	ERJ3GEYJ332	3.3k	
R153	ERJ3GEYJ471	470	
R154	ERJ3GEYJ105	1M	
R155	ERJ3GEYJ223	22k	
R156	ERJ3GEYJ153	15k	
R157	ERJ3GEYJ274	270k	
R158	ERJ3GEYJ123	12k	
R160	ERJ3GEY0R00	0	
R161	ERJ3GEYJ222	2.2k	
R162	ERJ3GEYJ562	5.6k	
R201	ERJ3GEYJ221	220	
R202	ERJ3GEYJ221	220	
R203	ERJ3GEYJ221	220	
R204	ERJ3GEYJ104	100k	
R205	ERJ3GEYJ221	220	
R206	ERJ3GEYJ221	220	
R207	ERJ3GEYJ103	10k	
R211	ERJ3GEYJ221	220	
R212	ERJ3GEYJ221	220	
R213	ERJ3GEYJ221	220	
R223	ERJ3GEYJ102	1k	
R224	ERJ3GEYJ104	100k	
R225	ERJ3GEYJ104	100k	
R226	ERJ3GEYJ104	100k	
R228	ERJ3GEY0R00	0	
R230	ERJ3GEYJ104	100k	
R231	ERJ3GEYJ105	1M	
R232	ERJ3GEYJ221	220	
R233	ERJ3GEYJ221	220	
R234	ERJ3GEYJ221	220	
R235	ERJ3GEYJ221	220	
R236	ERJ3GEY0R00	0	
R237	ERJ3GEY0R00	0	
R238	ERJ3GEY0R00	0	
R239	ERJ3GEY0R00	0	
R240	ERJ3GEY0R00	0	
R241	ERJ3GEYJ223	22k	
R242	ERJ3GEY0R00	0	
R243	ERJ3GEY0R00	0	
R280	ERJ3GEYJ123	12k	
R281	ERJ3GEYJ391	390	
R282	ERJ3GEYJ391	390	
R283	ERJ3GEYJ391	390	
R284	ERJ3GEYJ221	220	
C13	ERJ3GEYJ222	2.2k	

Ref. No.	Part No.	Part Name & Description	Remarks
C87	ERJ3GEY0R00	0	
C103	ERJ3GEY0R00	0	
C106	ERJ3GEY0R00	0	
D30	PQ4R10XJ000	0	
J1	PQ4R10XJ000	0	
J2	PQ4R10XJ000	0	
J3	PQ4R10XJ000	0	
J4	PQ4R10XJ000	0	
J5	PQ4R10XJ000	0	
J6	PQ4R10XJ000	0	
J7	PQ4R10XJ000	0	
J8	PQ4R10XJ000	0	
L202	ERJ3GEY0R00	0	
L205	ERJ3GEY0R00	0	
L206	ERJ3GEY0R00	0	
L207	ERJ3GEY0R00	0	
L209	ERJ3GEY0R00	0	
L210	ERJ3GEY0R00	0	
		(CAPACITORS)	
C1	ECKD2H681KB	680P	S
C2	ECKD2H681KB	680P	S
C3	ECQE2224KF	0.22	
C4	ECUV1H472KBV	0.0047	
C10	PQCUV1H223KB	0.022	
C11	ECEA1HU100	10	S
C14	PQCUV1C224KB	0.22	
C15	ECEA1HKS3R3	3.3	S
C16	ECUV1H103KBV	0.01	
C21	PQCUV1H154KR	0.15	
C22	PQCUV1H154KR	0.15	
C24	PQCUV1C474KB	0.47	
C27	PQCUV1H102J	0.001	S
C30	ECEA1EU470	47	S
C31	ECUV1H102KBV	0.001	
C32	ECEA1AU221	220	S
C33	ECEA1EU470	47	S
C34	ECUV1C104KBV	0.1	
C36	ECEA1HKA010	1	
C37	ECEA1EU101	100	S
C39	ECEA1AU221	220	S
C40	EECFM5R5473	0.047F	
C41	ECA0JM102	0.001	

Ref. No.	Part No.	Part Name & Description	Remarks
C43	ECA0JM102	0.001	
C44	ECEA1AU221	220	S
C71	ECUV1H103KBV	0.01	
C72	PQCUV1C224KB	0.22	
C73	PQCUV1C224KB	0.22	
C74	ECUV1C104KBV	0.1	
C75	ECUV1H221JCV	220P	S
C81	ECUV1H103KBV	0.01	
C82	ECUV1C104KBV	0.1	
C84	ECUV1C104KBV	0.1	
C89	PQCUV1E473MD	0.047	S
C90	ECUV1H820JCV	82P	
C101	ECEA1HU220	22	S
C104	ECUV1C104KBV	0.1	
C108	ECUV1C104KBV	0.1	
C109	ECUV1C104KBV	0.1	
C150	PQCUV1C224KB	0.22	
C152	ECEA1CKA100	10	
C153	ECUV1C104KBV	0.1	
C154	ECUV1H820JCV	82P	
C155	PQCUV1E333MD	0.033	S
C161	ECUV1C683KBV	0.068	
C162	ECUV1H333KBV	0.033	S
C200	ECEA1AU471	470	
C201	ECUV1C104ZFV	0.1	
C202	ECUV1C104ZFV	0.1	
C205	ECUV1A105ZFV	1	
C209	ECUV1A105ZFV	1	
C210	ECUV1H102KBV	0.001	
C213	ECUV1H102KBV	0.001	
C219	ECUV1C104KBV	0.1	
C222	ECUV1H331JCV	330P	S
C223	ECUV1H560JCV	56P	
C224	ECUV1H331JCV	330P	S
C225	ECUV1H102KBV	0.001	
C226	ECUV1H560JCV	56P	
C227	ECUV1C104KBV	0.1	
C228	ECUV1C104ZFV	0.1	
C229	ECUV1C104ZFV	0.1	
C231	ECUV1H030CCV	3P	
C232	ECUV1H030CCV	3P	
C233	ECUV1A105ZFV	1	

Ref. No.	Part No.	Part Name & Description	Remarks
C241	ECUV1H331JCV	330P	S
C251	ECUV1H331JCV	330P	S
C252	ECUV1H331JCV	330P	S
C253	ECUV1H331JCV	330P	S
C258	ECUV1H331JCV	330P	S
C259	ECUV1H331JCV	330P	S
C260	ECUV1H331JCV	330P	S
C261	ECUV1H331JCV	330P	S
C280	ECUV1C104ZFV	0.1	
C281	ECUV1H331JCV	330P	S
C282	ECUV1H331JCV	330P	S
C283	ECUV1H331JCV	330P	S
C284	ECUV1H331JCV	330P	S
C285	ECUV1H102KBV	0.001	
C286	ECUV1H102KBV	0.001	
C287	ECUV1H102KBV	0.001	
C288	ECUV1H102KBV	0.001	
C289	ECUV1H102KBV	0.001	
C290	ECUV1H102KBV	0.001	
C291	ECUV1H331JCV	330P	S
C292	ECUV1H331JCV	330P	S
R105	ECUV1C104KBV	0.1	
R115	ECUV1H151JCV	150P	

15.1.5. LCD P.C.BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB2	PQWP2MS32BXH	LCD P.C.BOARD ASS'Y (RTL)	
		(LEDS)	
LED2	PQVDSML210LT	LED	
LED3	PQVDSML210LT	LED	
		(CONNECTORS)	
CN1	PQJS18X54Z	CONNECTOR	
CN2	PQJS10A79Z	CONNECTOR	

15.1.6. OPERATION P.C.BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB3	PQWP3MS32BXH	OPERATION P.C.BOARD ASS'Y (RTL)	
		(LED)	
LED1	PQVDSML210LT	LED	
		(CONNECTOR)	
CN103	PQJS12B33Z	CONNECTOR	

15.2. MEMO

16. CIRCUIT BOARD

16.1. Component View

16.2. Flow Solder View

17. SCHEMATIC DIAGRAM

17.1. Main P.C. Board

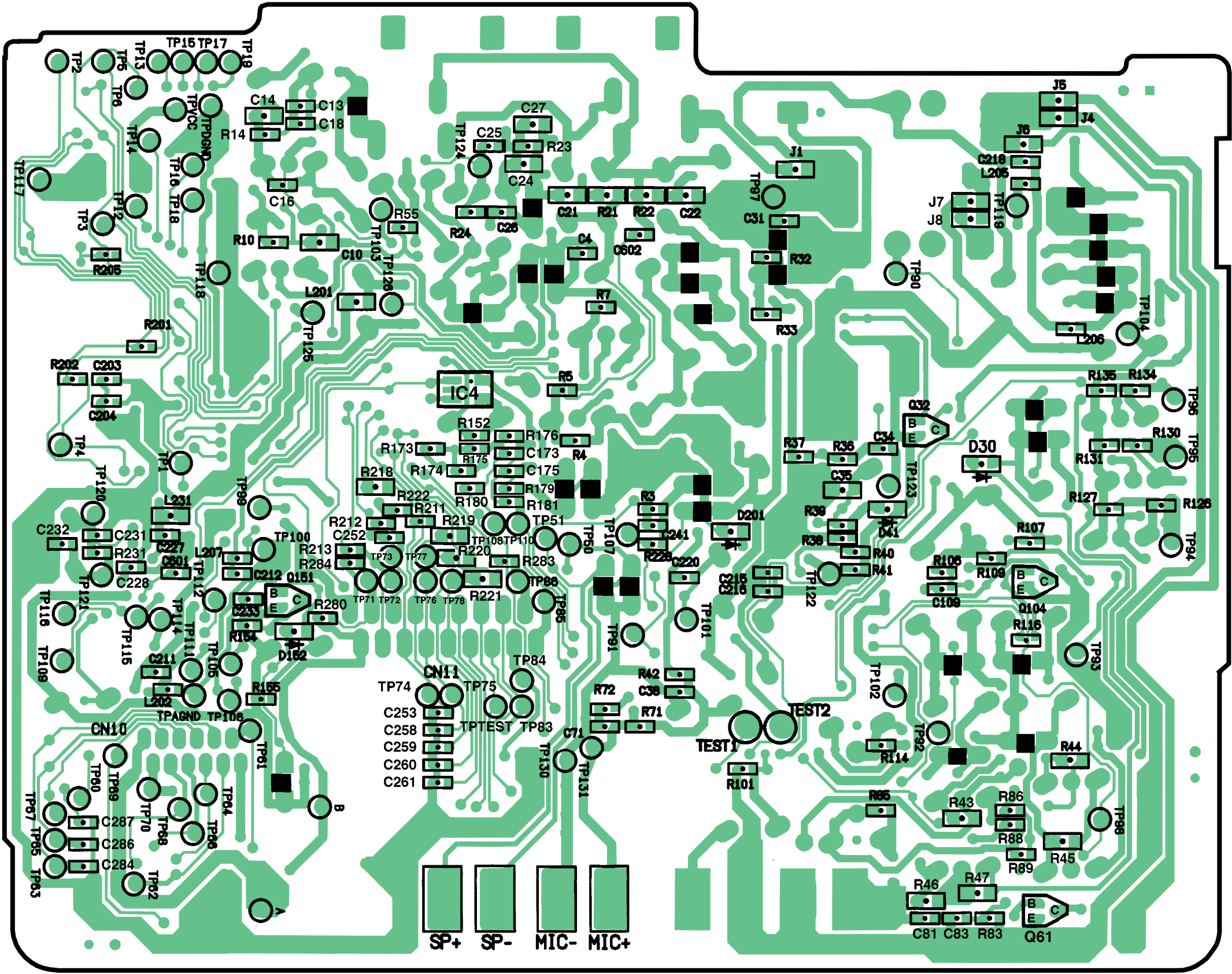
17.2. LCD P.C. Board

17.3. Circuit Board

17.4. Operation P.C. Board

17.5. Circuit Board

M (Q) / KXTMS32PDW / Printed in Japan


TP2
TP5
TP13
TP15
TP17
TP19
TP6
TP14
TP117
TP3
TP12
TP16
TP18
TPVCC
TPDGND
C14
C13
C18
R14
C16
R10
C10
R205
TP118
L201
TP125
TP103
TP126
R55
R201
R202
C203
C204
TP4
TP1
TP120
C232
C231
R231
C228
C227
C601
L231
TP99
L207
TP100
C212
Q151
R213
R284
C233
R154
R280
D152
TP121
TP116
TP115
TP114
TP111
TP105
TP109
C211
L202
TPAGND
TP106
R155
CN10
TP60
TP69
TP67
TP65
TP63
C287
C286
C284
TP70
TP68
TP64
TP66
TP62
TP61
B
A
C27
C25
R23
C24
TP124
C21
R21
R22
C22
R24
C26
C4
C602
R7
IC4
R5
R152
R176
R173
C173
R4
R175
R174
C175
R218
R179
R222
R180
R181
R211
R219
TP51
R212
C252
TP108
TP110
TP73
TP77
R220
R213
R284
R283
TP71
TP72
TP76
TP78
R221
TP86
TP85
TP50
TP107
R3
C241
R226
C220
TP91
TP101
CN11
TP74
TP75
TP84
C253
C258
C259
C260
C261
TPTEST
TP83
R72
R71
C71
TP130
TP131
R42
C38
TEST1
TEST2
R101
TP102
R114
TP92
J1
TP97
C31
R32
R33
TP90
J7
J8
J5
J4
J6
C218
L205
TP119
L206
TP104
R135
R134
TP96
R130
TP95
R131
R127
R126
TP94
R107
R109
R106
C109
Q104
R116
TP93
R44
R98
R45
R86
R88
R89
R43
R85
R46
R47
C81
C83
R83
Q61
Q32
C34
TP123
D30
R37
R36
C35
D41
R38
R39
R40
R41
C215
C216
TP122
D201
SP+
SP-
MIC-
MIC+

B (Operation P.C. Board)

A (LCD P.C. Board)

TX

RX

SP PHONE TX

SP PHONE RX

4.9V

TX -25.0dBm
SP PHONE TX -18.0dBm

TX -13.0dBm
SP PHONE TX -6.5dBm

-20dBm/600Ω
1KHz

TIP
RING

Data port

4.4V

4.9V

8.6V

8.6V

5.0V

DC IN
KX-A1685I 12V 500mA

SP PHONE TX
-22.0dBm

4.2V

4.4V

4.2V

IC1

-51dBm/600Ω
1KHz

RX -27.0dBm
(Vol: MAX)

H/S CONNECTOR

TX
-31.0dBm

-40dBm/2.2kΩ
1KHz

Hook SW

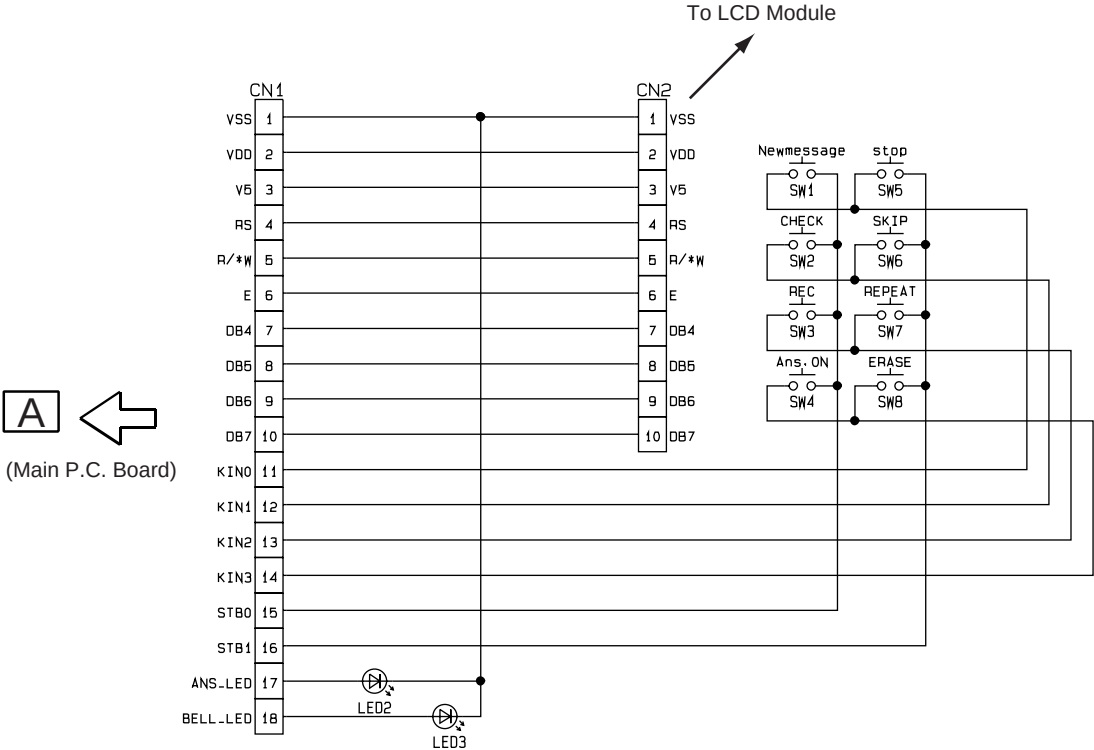
TX
-10.0dBm

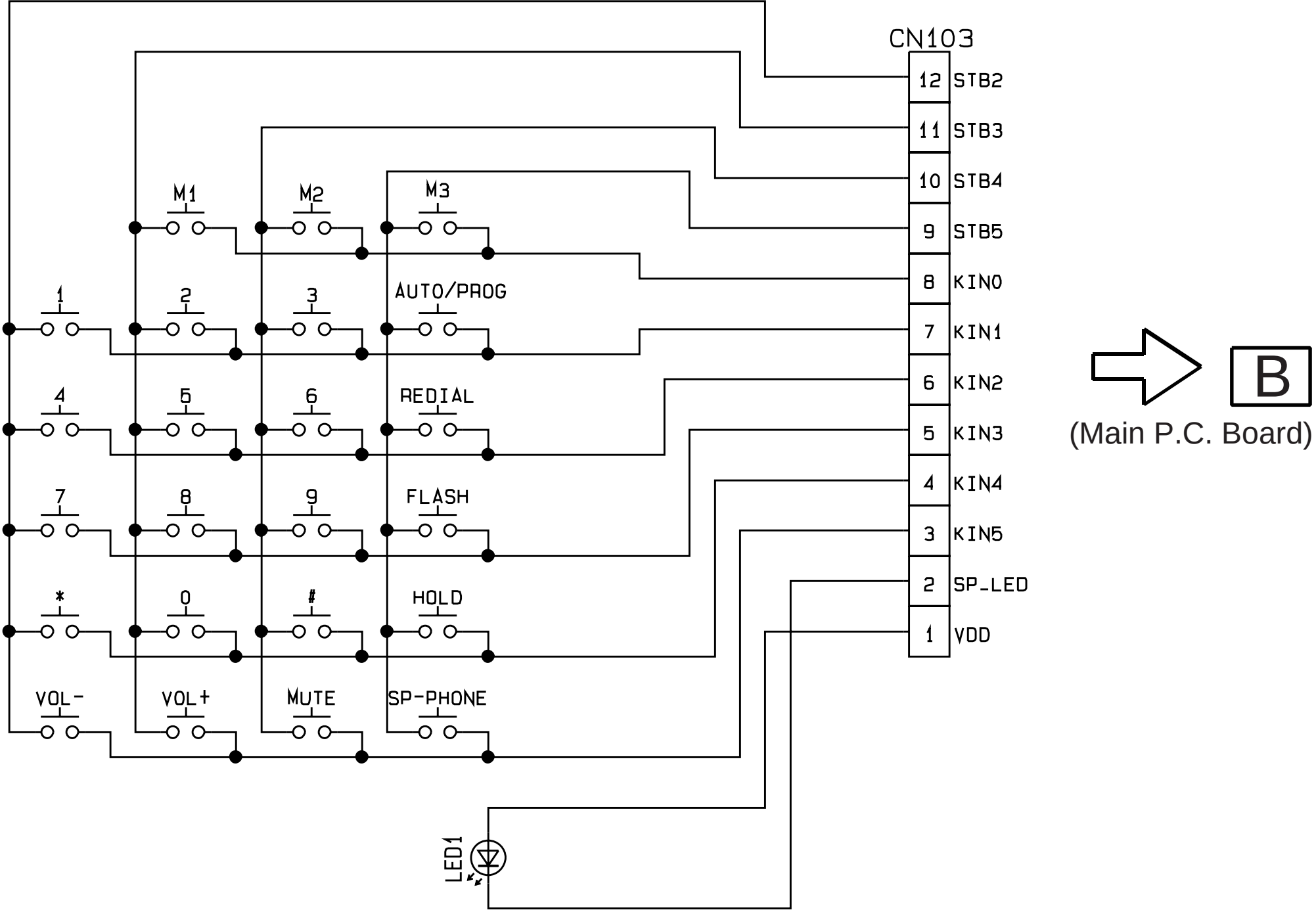
SP PHONE RX
-5.0dBm (Vol: MAX)

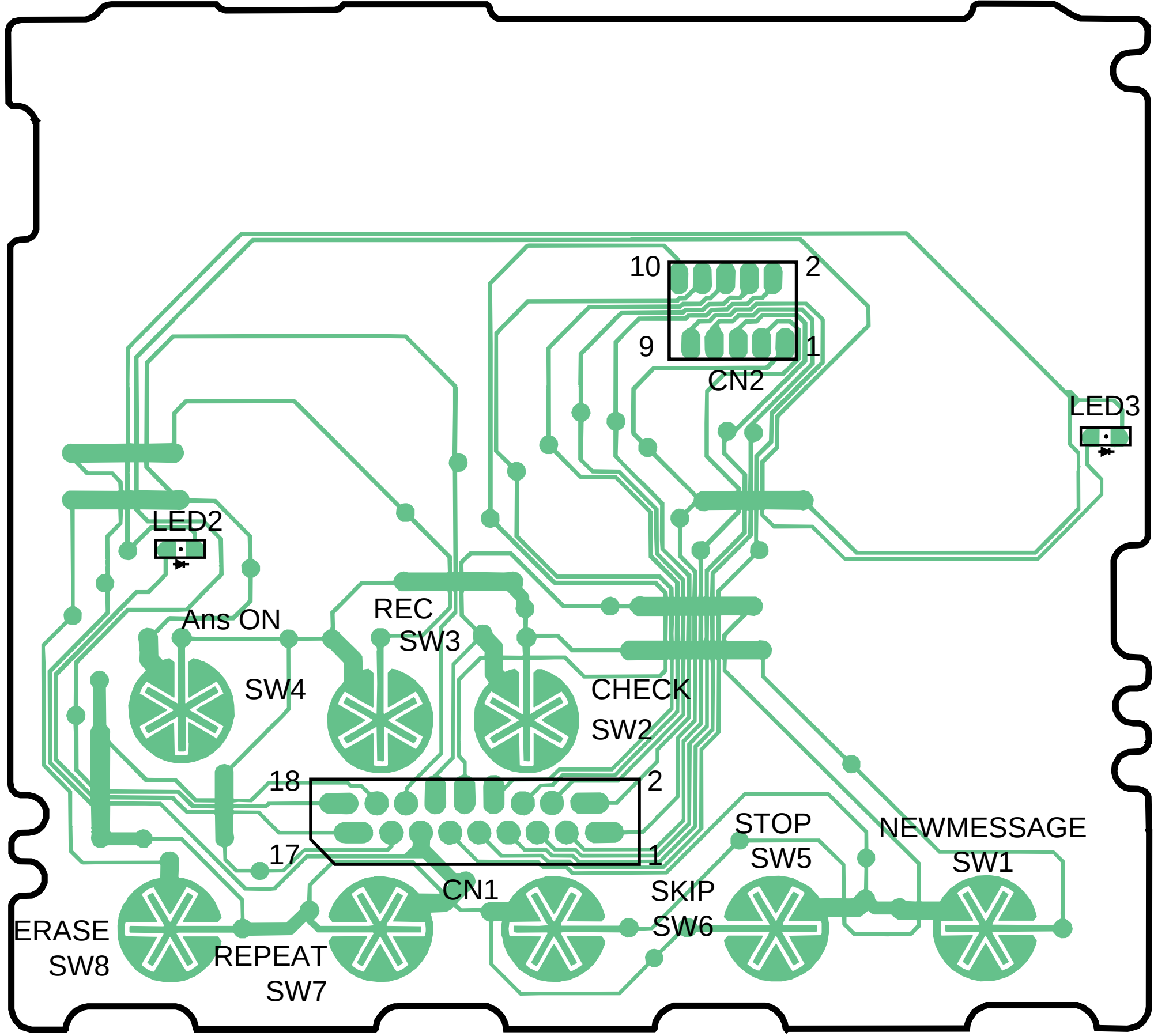
RX -11.0dBm

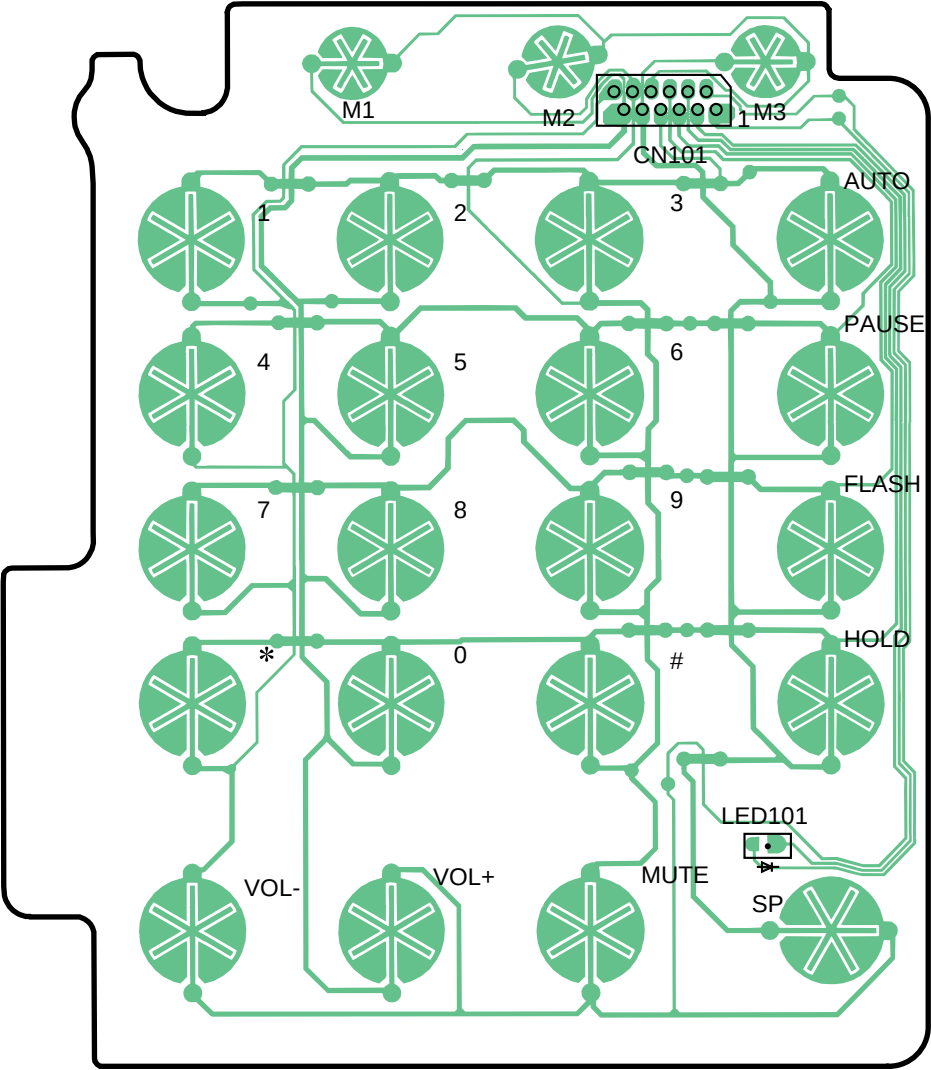
RX, SP PHONE RX
-11.0dBm

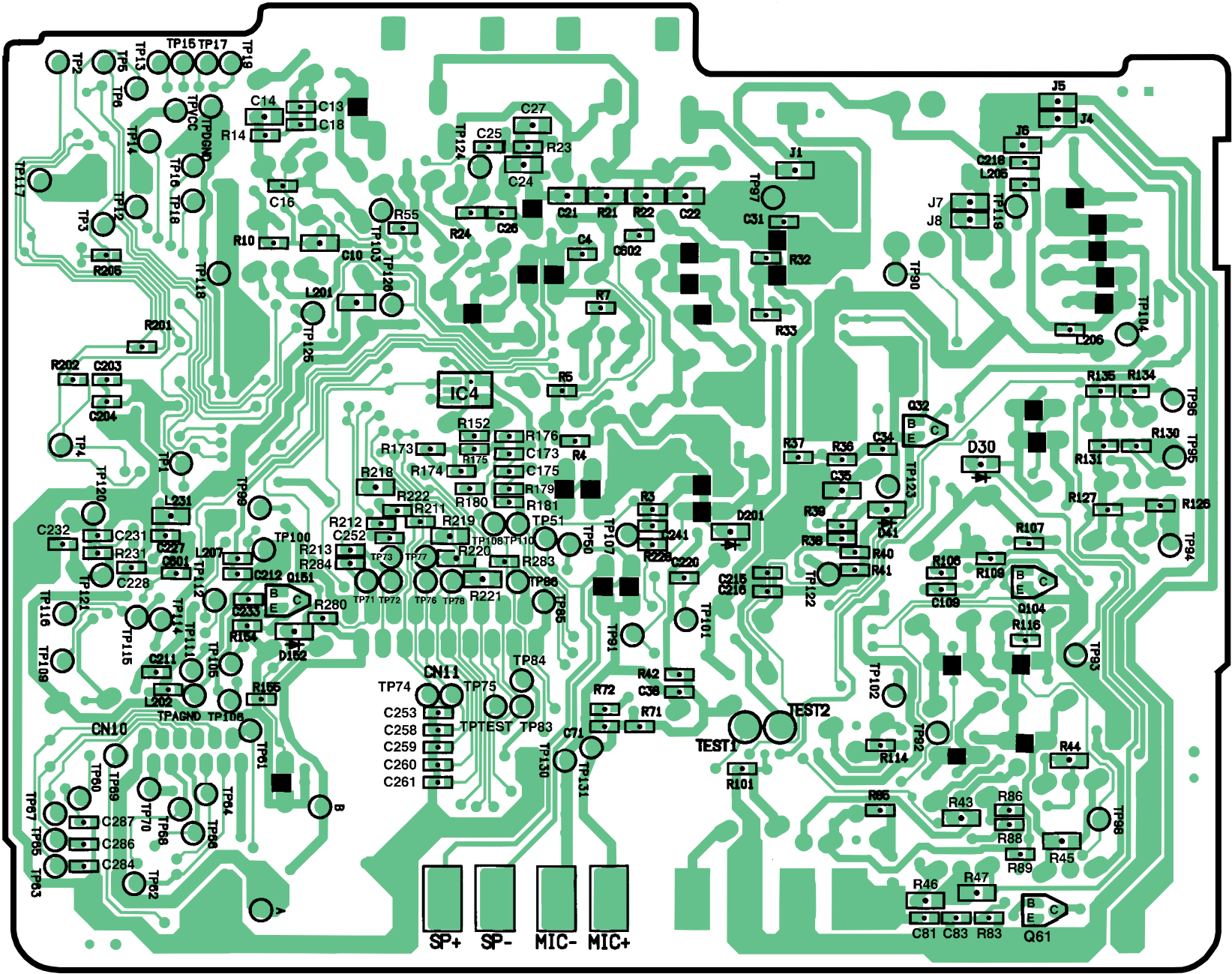
* "NC" is the part not used.


To LCD Module
CN1
CN2
VSS 1
VDD 2
V5 3
RS 4
R/*W 5
E 6
DB4 7
DB5 8
DB6 9
DB7 10
KIN0 11
KIN1 12
KIN2 13
KIN3 14
STB0 15
STB1 16
ANS_LED 17
BELL_LED 18
1 VSS
2 VDD
3 V5
4 RS
5 R/*W
6 E
7 DB4
8 DB5
9 DB6
10 DB7
Newmessage
SW1
stop
SW5
CHECK
SW2
SKIP
SW6
REC
SW3
REPEAT
SW7
Ans.ON
SW4
ERASE
SW8
LED2
LED3
A
(Main P.C. Board)


CN103
12 STB2
11 STB3
10 STB4
9 STB5
8 KIN0
7 KIN1
6 KIN2
5 KIN3
4 KIN4
3 KIN5
2 SP_LED
1 VDD
M1
M2
M3
1
2
3
AUTO/PROG
4
5
6
REDIAL
7
8
9
FLASH
*
0
#
HOLD
VOL-
VOL+
MUTE
SP-PHONE
LED1
B
(Main P.C. Board)


10
2
9
1
CN2
LED3
LED2
Ans ON
REC
SW3
SW4
CHECK
SW2
18
2
17
1
CN1
STOP
SW5
NEWMESSAGE
SW1
SKIP
SW6
ERASE
SW8
REPEAT
SW7


M1
M2
M3
1
CN101
AUTO
1
2
3
PAUSE
4
5
6
FLASH
7
8
9
HOLD
*
0
#
LED101
VOL-
VOL+
MUTE
SP


IC4
CN11
CN10
TEST1
TEST2
SP+
SP-
MIC-
MIC+
D30
Q61
Q104
Q151
D152
D201
L201
L202
L207
L231
J1
J4
J5
J6
J7
J8
TP2
TP3
TP5
TP6
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TPVCC
TPGND
TPAGND
TP1
TP4
TP51
TP52
TP53
TP54
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TP56
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TP114
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TP120
TP121
TP122
TP123
TP124
TP125
TP126
TP127
TP128
TP129
TP130
TP131
TPTEST
C4
C10
C13
C14
C16
C18
C21
C22
C23
C24
C25
C26
C27
C31
C32
C34
C35
C36
C38
C41
C71
C81
C83
C84
C109
C201
C202
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C204
C205
C206
C211
C212
C215
C216
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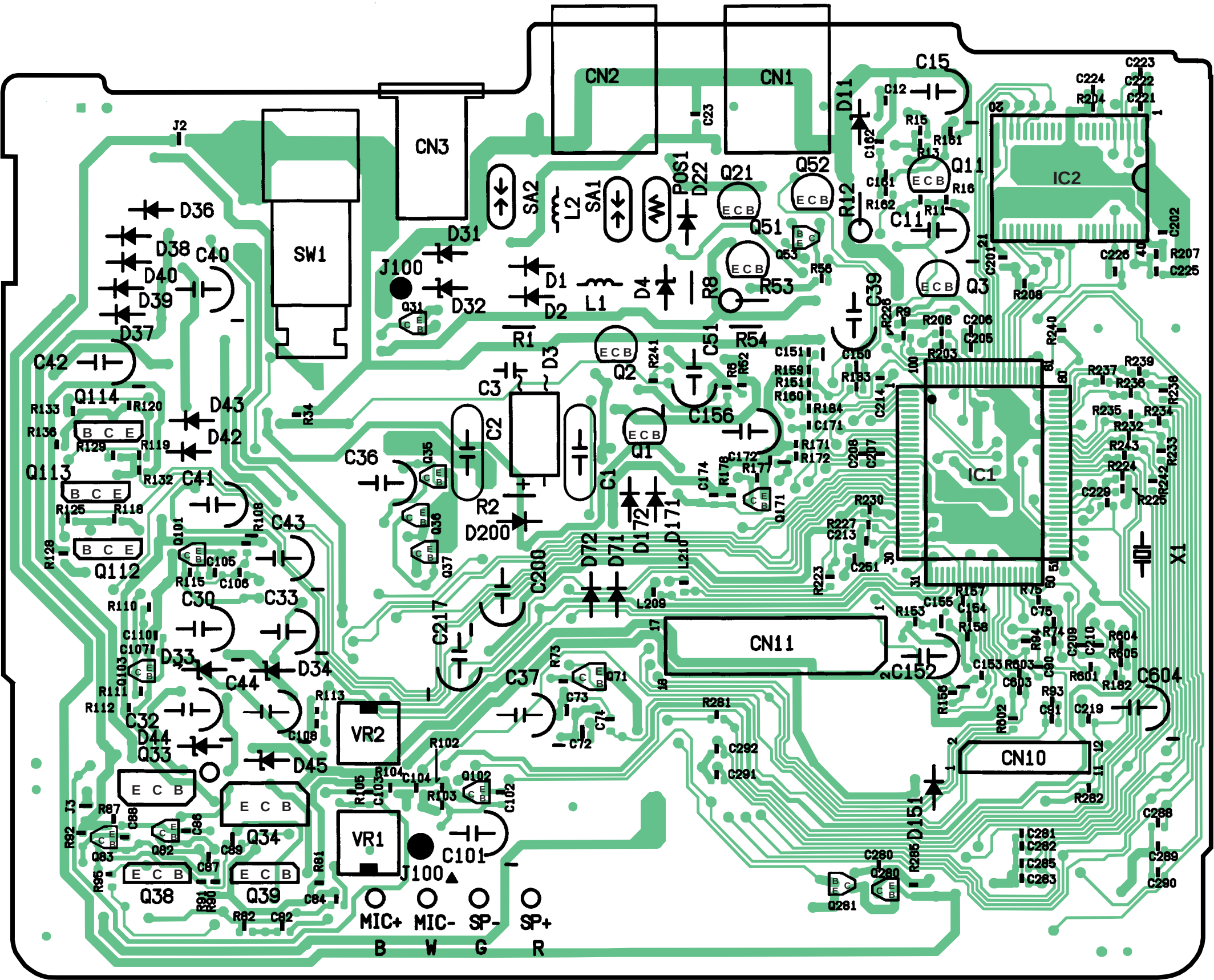
C220
C227
C228
C231
C232
C233
C241
C252
C253
C258
C259
C260
C261
C284
C286
C287
C602
R5
R7
R10
R14
R23
R24
R32
R33
R36
R37
R38
R39
R40
R41
R42
R43
R44
R45
R46
R47
R55
R71
R72
R81
R83
R85
R86
R88
R89
R90
R101
R106
R107
R109
R114
R116
R126
R127
R130
R131
R134
R135
R152
R154
R155
R173
R174
R175
R176
R179
R180
R181
R201
R202
R205
R211
R212
R213
R218
R219
R220
R221
R222
R231
R241
R280
R283
R284


CN2
CN1
CN3
SW1
J2
D36
D38
D40
D39
D37
C42
Q114
R133
R136
R120
R129
R119
D43
D42
Q113
R132
C41
R125
R118
R128
Q112
C43
R108
Q101
C105
R115
C106
C30
C33
R110
C110
C107
D33
D34
Q103
C44
R111
R112
C32
D44
Q33
R113
C108
D45
VR2
R102
R104
C104
Q102
R103
C102
R105
C103
VR1
C101
J100
MIC+
MIC-
SP-
SP+
B
W
G
R
J3
R92
R87
C88
C86
Q83
Q82
C89
C87
Q38
Q39
R96
R91
R90
R81
C84
R82
C82
J100
Q31
D31
D32
SA2
L2
SA1
POS1
D22
Q21
Q52
Q51
Q53
D1
D2
L1
D4
R8
R53
R56
R1
D3
C3
C2
C1
R2
D200
Q2
Q1
R241
C51
R54
R6
R62
C156
C36
Q35
Q36
Q37
D72
D71
D172
D171
L210
L209
C200
C217
C37
R73
Q71
C73
C74
C72
R281
C292
C291
CN11
C23
D11
C15
C12
R15
R161
R13
Q11
C161
R16
R162
R12
C11
R11
Q3
C39
R9
R206
C206
C205
R203
C214
C151
R159
R151
R160
R184
C171
R171
R172
C208
C207
C172
R177
R178
C174
Q171
R230
R227
C213
C251
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C225
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R242
R225
C229
X1
R157
C155
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R158
R153
C152
C153
R603
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R156
R602
R601
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C604
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